THE OCTAGON

Volume 89, No. 8, November 2006 Lehigh Valley Section of the American Chemical Society

In This Issue:

Meeting Announcement: 791st LVACS Meeting: Lehigh University Spouses Night!

Date: Thursday, November 16, 2006
Location: Asa Packer Room, University Center
Reception: 6:00 crudite and refreshments
Dinner: 6:30 Buffet
Meeting: 7:30
Talk: At conclusion of business meeting
Menu: Selections from salads, Crab Stuffed Baked Flounder with Tomato Bruschetta and Cheese Tortellini Alfredo Primavera, assorted steamed vegetables, orange rice, sunshine lemon tart dessert, tea and coffee.
Cost: $20, spouses, students and retirees $10.00
Contact: Please call [(610) 758-3471] to reserve your place before close of work Friday, November 10th
Directions: consult the map and directions on the website **www.lehigh.edu**

Speaker: Salvatore J. Salamone Ph.D.
Chairman and CEO, Saladax Biomedical Inc.
Salvatore J. Salamone, Ph.D., is the Chairman & Chief Scientific Officer of Saladax Biomedical. Dr. Salamone has over twenty years' experience in the healthcare and medical device industry. At Roche Diagnostics, where he served for seventeen years, Dr. Salamone's most recent position was Vice President of Research and Development from which he managed all of Roche's North American Research and Development efforts for the Laboratory Systems division. He was also responsible for establishing the Research Center of Excellence in Indianapolis, Indiana, after the acquisition of Boehringer Mannheim by Roche. Dr. Salamone's efforts during his tenure resulted in the launch of seven major reagent product lines (Abuscreen OnTrak, TesTcup, OnLine DAT, OnLine II TDM/DAT, Fluorescent Polarization TDM line, TesTstik, Integra DAT/TDM line) which account for over 70 FDA approved products and 200 instrument applications. Dr. Salamone is world-recognized in the field of drug monitoring with well over 100 publications, chapters, books and patents in the area. After leaving Roche, Dr. Salamone joined OraSure Technologies, Inc. as Senior Vice President, Research and Product Development where his research group was responsible for the development of a new technology with applications in the field of drug monitoring and support of the OraQuick HIV 20 minute assay. Dr. Salamone is also Founder and President of Advance BioTech Consulting, LLC, where he provides guidance and direction to the biotechnology industry in technology assessment, strategic planning and product development. His clients include the top diagnostic players as well as multiple smaller biotech companies. Before joining Roche Diagnostics in 1984 Dr. Salamone was a post-doctoral fellow at Oxford University, England where he studied in the area of bioorganic chemistry He received two B.S. degrees (Chemistry and General Science) from Villanova University, and his M.S. and Ph.D. degrees in Chemistry from Rutgers University.

Talk: Advances in Chemotherapy Management: Making drugs more effective and less toxic

Maintaining a patient's blood level in a precise therapeutic range is a big part of making that pharmaceutical maximally effective for that patient. Often in combination therapies -- where more than one drug is part of the dosage regimen -- the clearance kinetics will differ substantially. New advances in diagnostic medicine allow monitoring to insure the patient's levels are optimum and that the chance for therapeutic benefit is thereby improved.

LVACS Officers - 2006:

Chair: T. Michelle Jones-Wilson
East Stroudsburg University
East Stroudsburg, PA 18301
mjwilson@po-box.esu.edu 570-422-3703

Chair Elect: Paul Bouis
pbmbi@rcn.com

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

Secretary: Chester Crane
Bangor PA
ccrane9@yahoo.com 610-588-0073

Treasurer: John Freeman
East Stroudsburg University
East Stroudsburg, PA 18301
jfreeman@po-box.esu.edu 570-422-3446

Councilor: Carol Baker Libby
Moravian College, Bethlehem, 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 3508

Alternate-Councilors: Roger Egolf & T. Michelle Jones-Wilson (see above)

2006-2007 Meeting Schedule

January - Muhlenberg College
February - Cedar Crest College
March - Desales University - HS Teacher's Night
April - Moravian College - Student Awards and Poster Session
May - East Stroudsburg University
Pub Night Rescheduled!

2006 Innovative Project Grants Awarded - LVACS receives award

The Local Section Activities Committee has awarded $74,000 in funding to 33 local sections that submitted proposals for Innovative Project Grants (IPGs). These awards were made on the recommendation of the Grants and Awards Subcommittee, which received a total of 36 proposals by the August 1, 2006, application deadline. IPGs encourage innovative programming for which a local section needs financial support to undertake. We are please to announce the LVACS has received one of the 33 grants for $2800 to support. The title of the grant is *Discover Chemistry - LVACS and the Da Vinci Discovery Center*. We plan to hold a Discover Chemistry evening with activities oriented towards K-9 students. This event will involve fifty to seventy-five students and parents and be hosted in conjunction with the Da Vinci center. We hope to increase the exposure of the section in our area and increase membership participation and interest. Keep tuned to the Octagon to learn more about this exciting upcoming event!

Call for Nominations

It is time to elect LVACS Officers for 2007.

Offices open for nomination are:

1 year term:

Chair Elect: - duties - organize meeting program, assist Chairperson, serve on the executive council. By tradition LVACS has alternated the Chair between industry and the academy. The Chair Elect for 2007 should be from academe to keep with tradition.

Secretary - duties- prepare minutes for membership and executive council meetings, handle official correspondence, serve on the executive council.

Treasurer - prepare budget, handle finances, report budget to national, serve on the executive council.

3 year term:

Councilor and Alternate Councilor - represent the section at national meetings, serve on the executive council.

Nominations can be emailed to mjwilson@po-box.esu.edu or sent via snail mail to RR#1 Box 1077, Cresco, PA 18326. Self nominations are acceptable. Nominations will close at the end of the November business meeting.

ACS Career Book Club

ACS is offering interested members an opportunity to expand their horizons in their career development by participating in a book club: read a book, share your thoughts, and discuss it online with other readers. Discussions are led and facilitated by Dorothy Rodmann, an ACS Career Consultant, who responds to posted comments

each evening during the first week. You can post your comments on these books anytime on the book club site.

The book club premiered June 12 of this year with How Full Is Your Bucket?*Positive Strategies for Work and Life* by Tom Rath and Donald O. Clifton. A quick read, it focuses on the positives in your interactions with others and how to fill your own and others' invisible buckets with positive input. In July, the book club covered First, Break All the Rules*, What the World's Greatest Managers Do Differently* by Marcus Buckingham and Curt Coffman. This book is a culmination of more than 80,000 interviews conducted by the Gallup Organization. The authors have analyzed the responses to produce a book on relationships between managers and employees. It gives information on how managers can attract, focus, and keep the most talented employees. The August read, Now, Discover Your Strengths by Marcus Buckingham and Donald O. Clifton, focuses on enhancing people's strengths rather than eliminating their weaknesses. The authors created a web-based interactive tool, StrengthFinder, to help you discover your own top-five inborn talents. StrengthFinder is accessible with a unique ID number that is given in each book. On September 11, the book club started reading Whole New Mind by Daniel H. Pink, best-selling author of *Free Agent Nation* (2001). In *Whole New Mind*, Pink contends that in a future age, which he labels as the Conceptual Age, power will shift to right-brain thinkers, the creative and imaginative workers. Certain creative skills, the six "senses"—design, story, symphony, empathy, play, and meaning—can be cultivated. The author describes these six right-brain-directed aptitudes and how to develop them. After reading the book, you can post your comments on the book club site. http://acsbookclub.wordpress.com/

To become part of the club, simply read the book and join the discussion hosted on the book club site. ACS will donate a percentage of all member purchases made via Books-A-Million.com to the ACS Scholars Program, which awards scholarships to underrepresented minority college students with financial need.

This Month in Chemical History

Harold Goldwhite, California State University, Los Angeles
hgoldwh@calstatela.edu

Prepared for SCALACS, the Journal of the Southern California, Orange County, and San Gorgonio Sections of the American Chemical Society

In my last column I discussed the career of Edwin E. Slosson, author of "Creative Chemistry" published in 1919, and one of the most successful popular treatments of chemistry ever written. The book's subtitle is significant: "Descriptive of Recent Achievements in the Chemical Industries." The illustration facing the title page is interesting. It shows the "burning of air" in a Birkeland-Eyde furnace at the Du Pont Plant. This now forgotten process for nitrogen fixation, long superseded by the Haber process, involved the passage of air through an electric arc when some of the nitrogen combines with oxygen to make nitric oxide. This can be readily oxidized to nitrogen dioxide which will then yield nitric acid. Slosson reports that these electric furnaces yield 50 to 80 grams of nitric acid per kilowatt hour.

The Chapter titles indicate clearly Slosson's interests in the chemical industries. "Nitrogen" enjoys a chapter of its own closely followed by "Feeding the Soil". "Coal-tar Colors" is followed by "Synthetic Perfumes and Flavors". The chapter on "Synthetic Plastics" gives us an insight into a field that was to blossom later. In 1919 the most widely used synthetic plastic was collodion, developed by John Wesley Hyatt as a material for billiard balls that could replace the expensive and increasingly rare ivory. As Slosson vividly puts it: "The raising of elephants is not an industry that promises as quick returns as raising chickens or Belgian hares." Collodion is made from a solution of nitrocellulose in ether and alcohol mixed with camphor. It was made by dozens of manufacturers, including Hyatt, under names like celluloid, xylonite, parkesine and many others, and fabricated into billiard balls, combs, boxes, napkin rings, buttons, and detachable shirt collars.

The other group of synthetic plastics are the condensation products, of which the most important is bakelite. I have told the story of Leo Baekeland and the development of bakelite in an earlier column and by 1919 it was being manufactured on a large scale and used to impregnate paper and cloth, to coat metal objects, to make pipestems and fountain pens, and to make "noiseless" gears for cars and planes. Its major use was in the electrical industries as an insulator in motors, generators, and every kind of electrical equipment. Many other condensation products were being investigated and produced on a small scale in 1919 including "condensite" produced from a chlorinated naphthol and formaldehyde by Jonas Walter Aylesworth, one of Edison's associates, and used in making Edison phonograph records.

The impact of World War I, just concluded when "Creative Chemistry" was published, is evident in many chapters in particular "Nitrogen" and "The Race for Rubber" It is with the latter that I will conclude. It was established in the mid-nineteenth century that natural rubber could be thermally cracked to isoprene. The accidental polymerization of isoprene to rubber was observed by Tilden at Manchester in 1892 but he could never systematically reproduce the experiment. Finally W.H. Perkin's group, also at Manchester (and he incidentally was the son of the Perkin who discovered Mauveine, the first

synthetic dyestuff) found in July 1910 that metallic sodium could reproducibly initiate the polymerization of isoprene. The same discovery was made just a little later by Harries at the Bayer works in Germany, but the patent had already been filed in England. Both Britain and Germany wished to make synthetic rubber on a large scale to equip their armed forces for the coming war of 1914 – 1918. Both sides failed. The costs of the various routes to isoprene were prohibitive. The British spent over $200,000 in two years on the Perkin polymerization but their incentive to manufacture synthetic rubber was less than that of the Germans. During the war the British blockade of the sea approaches to Germany made rubber a scarce and costly commodity and rubber was recycled in Germany during the war.

"Creative Chemistry" is breezily written and very readable. It reminds us that if we want to improve the public image of chemistry we need to find writers of the caliber of Edwin Slosson who can make the discoveries and innovations of our science come alive for the public.

Proposed 2007 LVACS Budget

Income	current	2007 Budget	2006 to date
Annual Allotment	$ 9,201.00	$ 10,000.00	$ 9,201.00
Local Section Dues	3355.5	$ 3,000.00	3355.5
Donations, Contributions			$ 0.00
Octagon Income		$ 0.00	$ 0.00
Meal Income	$ 2,489.25	$ 3,000.00	$ 2,742.00
Interest, Dividends		$ 500.00	
Councilor Travel Rebate	3600	$ 3,600.00	
Total Income		**$ 20,100.00**	**$ 15,298.50**

Expense	current	2007 Budget	2006 to date
Admin Expenses			
Bank charges		$ 65.00	$ 65.00
Executive Committee		$ 0.00	
Membership Committee		$ 0.00	
Office Supplies		$ 25.00	
Program Committee		$ 0.00	
Public Outreach		$ 0.00	
		$ 90.00	
Subsidies to Subsections			
TEACHEM		$ 0.00	
Continuing Education			
Leadership Training		$ 500.00	$ 317.28
Speaker Expenses		$ 200.00	$ 133.28
Meal Expenses		$ 5,000.00	$ 3,912.48
Octagon			
Office supplies			$ 3,200.00
Postage			$ 2,400.00
Editors Fee		$ 4,000.00	
Subtotal		$ 4,000.00	$ 6,019.73

Expense	current	2007 Budget	2006 to date
Awards			
50 Year		$ 50.00	
Dist. Serv. Award		$ 0.00	
Found Scholarship		$ 1,125.00	$ 1,000.00
- Found Scholarship Sr		$ 1,000.00	
Organic Scholarship		$ 1,125.00	$ 1,000.00
Past Chair		$ 0.00	
Student Awards			$ 0.00
Subtotal		$ 3,300.00	$ 2,000.00
Travel			
Councilors		$ 6,000.00	$ 6,074.28
Officers		$ 0.00	
Subtotal		$ 6,000.00	$ 6,074.28
Other Expenses			
Chemistry Olympiad		$ 200.00	
PJAS		$ 200.00	
Read/Berks Science Fair		$ 250.00	
Miscellaneous		$ 25.00	$ 400.00
Subtotal		$ 675.00	$ 400.00

Total Expenses	**$ 19,765.00**	**$ 18,857.05**
Bottom Line	**$ 335.00**	

Please direct any questions or comments about the budget to John Freeman, LVACS Treasurer, jreeman@po-box.esu.edu.