

THE OCTAGON



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Lehigh Valley Section of the American Chemical Society

In This Issue:

Meeting Announcement	1	This Month in the History of Chemistry	3
Chemistry Question of the Month	1	Undergraduate Poster Session Recognition	4
April Meeting Minutes	2-3	Local Section Funding	5
Section Officers	3		

765th LVACS Meeting:

Date: Tuesday, May 13, 2003

Location: Cedar Crest College

Event: Spouse's Night

Reception: 6:00 PM Tompkins College Center, Alcove C

Dinner: 6:30 PM Tompkins College Center, 1867 Room

Meeting: 7:45 PM Pool Science Center, room 136

Talk: At conclusion of Meeting

Menu: Choice of Chicken Marsala or Apricot Glazed Salmon

Cost: \$18.00 for members, \$9.00 for spouses and students

Contact: Diane Molchany by noon on Thursday, May 8th. 610-606-4611 or dkmolcha@cedarcrest.edu Please include your name, affiliation, and choice of dinner entree.

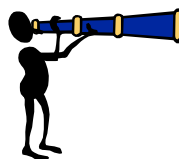
Directions: From route 22 west exit onto Cedar Crest Blvd. and travel through 5 traffic lights. Turn left into the campus. From route 22 East, turn left onto Cedar Crest Blvd. and travel through 4 traffic lights. Turn left into the campus. More complete directions can be found on the web at <http://www.cedarcrest.edu/drivetoccc.asp> and <http://www.cedarcrest.edu/Campusmap.asp>

Speaker: Dr. Lawrence Quarino

Dr. Quarino received a B.S. in Biology with a Chemistry minor (1983) from Saint Peter's College in NJ, an M.S. in Forensic Science (1987) from John Jay College of Criminal Justice in NY, and a Ph.D. in Criminal Justice with a Forensic Science concentration (2000) from City University of New York. Dr. Quarino is a Fellow of the American Academy of Forensic Scientists and is certified by the American Board of Criminalistics. From 1990 through 2001, Dr. Quarino worked as a Forensics Scientist in the Office of the Chief Medical Examiner, City of New York, where he supervised the operation of the forensic biology laboratory, conducted method validation and research on forensic analysis, and provided expert testimony in criminal court proceedings. Currently, he is the Director of the Forensic Science Program and is an Assistant Professor of Forensic Chemistry at Cedar Crest College.

Talk: Could Horatio Caine and Catherine Willows Function In a Real Forensic Laboratory?

Abstract: The inaccuracies of television portrayals in the professional life of the forensic scientist will be discussed. Of daily concern to the average forensic scientist are issues related to evidence admissibility, quality assurance, accreditation, and training. These topics play little or no role in the professional lives of "television" forensic scientists but are the bedrock for sound scientific criminal investigation. Discussion will focus on how these topics would affect the simulated forensic work performed on television shows. The distortions of the role of the forensic scientist in the criminal justice system and will also be exposed.



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

Question of the Month

What father-son duo received separate Nobel Prizes for contributions to "duality"?
Come to the May Meeting for the Answer!

LVACS would like to thank Merck & Co., Inc. for graciously donating the Merck Indices awarded to this year's undergraduates!

Your support is greatly appreciated!



April Meeting Minutes:

The 764th meeting of the LVACS was called to order by Chair Dr. Paul Bouis at 7:42 PM on Tuesday, April 15, 2003; ACS Awards Night. Moravian College hosted the meeting, as well as the Undergraduate Research Poster Session, on their campus. Dr. Bouis acknowledged the great efforts of the students, and noted that although enrollment in chemistry & chemical engineering is down, the quality is up. The section applauded the accomplishments of the students.

Next, Dr. Bouis and Dr. Charles Russell announced the ACS Award winners. A faculty member at each institution listed introduced the student awardee.

College/University	Student Award Recipient
Albright College	Craig M. Potteiger
Alvernia College	Jesus Echeverri
Cedar Crest College	Julianne Yost
DeSales University	Danette L. Astolfi
East Stroudsburg University	Karl Ackerman & Jason Smith
Kutztown University	Kristin Wernosky
Lafayette College - Chemistry	Daniel A. Ruddy
Lafayette College - Chemical Engineering	Stanley C. Cook
Lehigh University	Tricia Ludovic
Moravian College	Daniel J. Gorman & John A. Stanko
Muhlenberg College	Laura Jacobus

Each student received a Merck Index Award, and it was announced that Merck & Co, Inc. donates the Index Award to any requesting ACS section. The names of the award recipients were imprinted on the cover of the Award. The section greatly appreciates the generosity of the Published Information Resources (PIR) Department of Merck & Co., Inc.

Chair-Elect Dr. Steve Weiner reminded the section to submit student candidates for the LVACS Organic Chemistry Undergraduate Scholarship; there are 5 applicants so far for the April 26th exam. Minimum of 2 semesters of organic chemistry is required. Detailed information can be found at <http://www.esu.edu/lvacs/notices/scholarship.htm>. Please notify Dr. Weiner of additional candidates as soon as possible. Dr. Weiner also announced the section is looking for a candidate for Publicity Chair. A seminar/training event will be held at the Belmont Estates in Washington, DC for the selected Chair. Please see Dr. Weiner for additional information.

The question of the month was "When and where was the first official meeting of the ACS?" The answer is April 6, 1876 at the College of Pharmacy of the City of New York. Off-line, John Freeman submitted a Treasurer's Report. The checking account balance was \$9,164.12, the scholarship balance was \$1552.87, and the ready assets were \$29,701.89.

Dr. Al Martin introduced the speaker for the evening, Ms. Valerie Kuck. The title of Ms. Kuck's talk was "Writing a Winning Resume for a Tight Job Market." Prior to her formal presentation, Ms. Kuck also congratulated the students on their outstanding posters. Ms. Kuck then began her talk by stating a well-written resume has good alignment between the position sought and the skills attained. She noted a number of experiences she has had with clients, emphasizing the need to tailor the resume correctly. Ms. Kuck explained that the resume is a marketing tool, and should be specific, but not all encompassing. A well-written resume will get a person the interview, not the job; therefore, one must know and be prepared to reiterate the details at the interview. Ms. Kuck listed some logistical resume pointers: 1. Use Arial font, 11 or 12 point size and black ink; 2. Have clearly delineated sections, 1-inch margins and adequate white space; 3. Write concisely, limiting descriptions of accomplishments, and activities to two lines; 4. For resumes sent over the Internet, do not use columns, italics, underlining, or add decorative lines. Ms. Kuck has seen a plethora of 'pretty,' embellished resumes that are not professional, and end up in the trash. She emphasized that the reviewer will spend only 20 to 30 seconds reading a resume. The first seven seconds are the most important.

Next, Ms. Kuck listed the characteristics of a poorly written resume. Some examples are repeating words to describe an activity, exaggerated accomplishments, wordy, contains spelling and grammatical errors, and basically does not sell a person's skill-set and abilities. Do not list personal data, and only add GPA if it is above 3.5 on a 4.0 scale.

Prior to writing a resume, one should identify the specific position sought, the related skills to highlight for that position, and how past activities fit into that skill-set. In addition, a list should be created showing the experimental and computer skills that fit into the desired position.

The remaining talk focused on the specifics of the resume proper. Ms. Kuck detailed and gave examples of the following parts of a well-written resume: Heading, Objective, Highlights of Skills, Significant Accomplishments, Work Experience, Experimental and Computer Skills, Publications, Awards, and Education. Ms. Kuck's talk was also distributed to the section

attendees for future reference.

An excellent question and answer period occurred after Ms. Kuck's talk. She again congratulated the students, and gave best wishes for future goals and accomplishments. Dr. Bouis presented Ms. Kuck with a gift of the section's appreciation. The meeting was adjourned at approximately 9:05 PM.

Respectfully Submitted,

Tara S. Baney, Secretary, LVACS, 18-April-2003

LVACS Officers:

Chair: Paul Bouis

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Chair Elect: Steve Weiner

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Seaborg at University of California, Berkeley, 1958.

* Proctor and Gamble incorporated, 1905.

May 8: * Antoine Lavoisier is sentenced to death by the French Revolutionary Tribunal and executed by guillotine, 1794.

May 10: * Robert Bunsen and Gustav R. Kirchhoff announced the discovery of cesium (Cs, element 55), 1860.

* Edward Frankland provides a clear statement of the concept later known as chemical valence (in a paper on organometallic compounds), 1852.

May 12: * First successful use of streptomycin on human beings, 1945.

May 13: * Marie Curie is appointed professor of physics at the Sorbonne, 1906 (the first woman professor there).

May 14: * Robert Holton patents a process for production of taxol, an important cancer drug, 1994.

* Edward Jenner inoculated a boy with cowpox virus (smallpox vaccine), 1796.

May 16: * Theodore Harold Maiman first produces laser light (ruby laser), 1960.

May 17: * Dow Chemical incorporated, 1897.

May 20: * James Lind begins an experiment in which he controls the diet of sailors afflicted with scurvy, 1847; those who receive lemons and oranges show marked improvement.

May 22: * Louis Pasteur announces separation of optical isomers (mechanical separation of asymmetric crystals), 1848.

May 24: * Aaron Dexter appointed first professor of chemistry and materia medica at the newly organized Harvard Medical School, 1783.

May 25: * First fluid bed reactor began commercial operation, 1942, in Baton Rouge, LA.

* Stuart Perry of New York city obtains US patent 3597 for a gas engine, 1844. The engine used turpentine gases as fuels; patent covered both air-cooled and water-cooled versions.

May 28: * First pure food and drug legislation at the state level passed in New York, 1881 ("an act to prevent the adulteration of food or drugs").

May 29: * General Electric announced synthesis of gem-grade diamonds, 1970.

May 31: * William Ramsay and Morris William Travers discovered krypton (Kr, element 36), 1898.

This Month in the History of Chemistry¹

May 2: * William Nicholson places wires connected to a battery in water, observing its electrolysis, 1800.

May 5: * Albert Ghiorso announced the discovery of nobelium (No, element 102) by (left to right) Ghiorso, Torbjorn Sikkeland, John R. Walton and (absent) Glenn T.

¹Thanks to Carmen Giunta, for his Classic Chemistry website <http://webserver.lemoyne.edu/faculty/giunta/>

Undergraduate Research Poster Session - Moravian College - April 15, 2003

Congratulations to the following undergraduates who presented at the recent poster session!

***THE DEVELOPMENT AND CHARACTERIZATION OF A CATION SENSITIVE COATED-WIRE ELECTRODE**

John A. Stanko, Advisor: Dr. Langhus, Moravian College, 1200 N. Main St., Bethlehem, PA 18018

PROBING THE ARYL CONJUGATION IN SEMI-CONDUCTING GROUP 14 POLYMERS

Daniel A. Ruddy, Chip Nataro - Department of Chemistry, Lafayette College, Easton, PA; Donald Berry, Department of Chemistry and Biochemistry, University of Pennsylvania, Philadelphia, PA

***ORGANIC SYNTHESIS OF PRADIMICIN A – AN ANTIFUNGAL ANTIBIOTIC**

Julianne M. Yost and Paul M. Sherblom, Ph.D., Cedar Crest College, Department of Chemistry, 100 College Drive, Allentown, PA 18104

***INTEGRATION OF A MICROFORMING "PLANT-ON-A-CHIP", WITH MICROFLUIDIC CONNECTIONS, WITH A MICROFUEL CELL FOR POWER GENERATION TO PORTABLE ELECTRONIC DEVICES**

Tillus H. Beverly*, Samrat Mukherjee, Mayuresh V. Kothare (thb5@lehigh.edu, samd@lehigh.edu, mvk2@lehigh.edu), Department of Chemical Engineering, Lehigh University, 111 Research Drive, Bethlehem, PA,

***MODEL SYSTEM STUDIES OF THE DEHYDROGENASE REACTIONS OF 1,4-DIHYDROPYRIDINE**

Nate Siegfried, Daniel Libby, Moravian College Dept. of Chemistry, Bethlehem PA

***QUALITATIVE SPOT TEST FOR THE DETECTION OF EDTA IN BLOODSTAINS**

Carol M. Stein and Larry Quarino, Ph.D., Department of Chemical and Physical Sciences, Cedar Crest College, 100 College Drive, Allentown PA 18104

***INVESTIGATION OF THE EFFECT THAT DIFFERENT DRYING METHODS HAVE ON THE MECHANISM OF ACETAMINOPHEN RELEASE FROM MICROCRYSTALLINE CELLULOSE BEADS. (PART 3)**

Angelika Neff and Francis C. Mayville, Jr., Department of Natural Sciences, DeSales University, 2755 Station Avenue, Center Valley, PA 18034, Fax 610-282-0525, francis.mayville@desales.edu.

***ZRUTHENIUM CLUSTER COMPOUNDS CONTAINING 1,1'-BIS(DIPHENYLPHOSPHINO)FERROCENE (dppf): AN ELECTROCHEMICAL ANALYSIS AND THE CRYSTAL STRUCTURE OF [Ru₃(CO)₁₁]₂(m-dppf)**

Abby R. O'Connor, Chip Nataro - Department of Chemistry, Lafayette College, Easton, PA; Arnold L. Rheingold - Department of Chemistry and Biochemistry, University of San Diego, La Jolla, CA

***REACTIVITY DIFFERENCES OF AZULENE AND NAPHTHALENE AS STUDIED THROUGH THE DEUTERATION REACTION AND ¹H NMR: A STRUCTURAL INVESTIGATION OF THE AZULINIUM ION**

Bernie O'Hare, Carl Salter, Moravian College, 1200 Main Street, Bethlehem, PA 18018

***ELECTROCHEMISTRY OF 1,1'-BIS(DIPHENYLPHOSPHINO)FERROCENE (DPPF) DERIVATIVES OF GROUP 6 METAL CARBONYLS**

Amanda C. Ohs, Chip Nataro - Department of Chemistry, Lafayette College, Easton, PA; Arnold L. Rheingold - Department of Chemistry and Biochemistry, University of San Diego, La Jolla, CA; Michael J. Shaw - Department of Chemistry, Southern Illinois University Edwardsville, Edwardsville, IL

***SYNTHESIS OF SEVERAL IONIC LIQUIDS AND THEIR USE AS REPLACEMENT SOLVENTS IN TYPICAL ORGANIC REACTIONS**

Danette Astolfi and Francis C. Mayville, Jr., Department of Natural Sciences, DeSales University, 2755 Station Avenue, Center Valley, PA 18034, Fax 610-282-0525, francis.mayville@desales.edu.

***A KINETIC STUDY OF ALKYL GROUP TRANSFER REACTIONS IN COBALT MACROCYCLES**

Daniel J. Gorman, Moravian College, 1200 Main Street Bethlehem PA, 18018

***GROUP 10 METAL COMPOUNDS OF 1,1'- BIS(DIPHENYLPHOSPHINO) FERROCENE (dppf) AND 1,1'- BIS(DIPHENYLPHOSPHINO)RUTHENOCENE (dppr): A STRUCTURAL AND ELECTROCHEMICAL INVESTIGATION. X-RAY STRUCTURES OF [MCl₂(dppr)] (M = Ni, Pd)**

Alison N. Campbell, Michelle A. Ferguson, Chip Nataro - Department of Chemistry, Lafayette College, Easton, PA; Arnold L. Rheingold - Department of Chemistry and Biochemistry, University of San Diego, La Jolla, CA; Christopher D. Incarvito - Department of Chemistry, Yale University, New Haven, CT

***IDENTIFICATION OF THE SPECIFIC CYTOCHROME P450(S) INHIBITED BY PHENETHYL ISOTHIOCYANATE THRU AFFINITY CHROMATOGRAPHY**

Lori-Lynn Predmore, Cedar Crest College, Department of Chemistry, Allentown, PA 18104

YOUR TIME TO VOTE: The Petition to Increase Funding for Local Sections and Divisions

Ruth Hathaway, Chair Divisional Activities Committee

Yorke E. Rhodes, Chair Local Section Activities Committee

In the column that appeared in C&E News on February 10, 2003, entitled "The Big Society with the Little Societies Inside", we along with Frank Blum (2002 Chair, Divisional Activities Committee) discussed the funding needs for both Local Sections and Divisions within the ACS. At the recent meeting in New Orleans, Council approved the Petition to Increase Funding for Divisions and Local Sections. Now it is your turn, as members of the Society, to ratify the changes in the Constitution required to change the way we fund these two entities. Shortly, you will receive a ballot to vote on these changes. Below you will find some information that you may find helpful in deciding how to vote.

Local Sections and Divisions have their own Articles in the Constitution (Articles XII and XIII). These member units are constitutionally different from other Society units. The allotments to Local Sections and Divisions are also governed by the ACS Bylaws, so changes to the allotment and structure should be incorporated in the Bylaws. The Board of Directors is required to approve Bylaw changes. The membership must ratify changes to the Constitution.

These changes eliminate dollar amounts for local section and division allotments from the Bylaws and distribute 20 percent of the ACS member dues collected to Local Sections and Divisions, in an effort to support Local Section and Division memberships at a similar level. The dues allotment amounts to be distributed to Local Sections and Divisions are based on the relative number of memberships using the year 2000 as a base, which had 55 percent Local Sections and 45 percent Division memberships. The percentage for funding will stay fixed at 55/45. (Total ACS members belonging to a division number ca. 85,000, with total Division memberships numbering ca. 116,000, due to members with multiple Division memberships; Division dues are required. All ACS members are assigned a Local Section membership, numbering 143,000 in 2000; Local Section dues are optional.)

The petition provides a modest increase in funds to Local Sections and a significant increase in support to Divisions. The funds so allocated will be distributed to individual Divisions (34) and to individual Local Sections (189) by DAC and LSAC, respectively. Council must approve these distribution formulas at least every three years, with prior review of the Board Committee on Budget and Finance.

The Divisional Activities Committee (DAC) plans to distribute the money based on a significant increase in the base allotment; a modest increase in per member allotment; an increase in National Meeting Programming funds; and a fraction for innovative projects, especially those promoting Local Section and Division cooperation and collaboration

such as programming at regional and local meetings.

The Local Section Activities Committee (LSAC) will distribute a base amount to each Local Section and a per capita amount, ensuring that each Local Section's current yearly allotment will remain stable. Although there is a normal fluctuation in Local Section allotments due to changes in membership, existing funds will remain effectively the same for each Local Section. Additionally an innovative projects fund will be established to fund Sections with special financial needs that can improve their programming and fund innovative projects that could normally not be funded. Favored new activities will be those that involve joint interaction of Local Sections with Divisions or with other Local Sections.

Local Sections will receive their additional funds in the first year and thereafter. The Divisions' additional funds will be stepped up over four years from 2004 to 2007, when fully funded. The total increase needed to fund this petition is approximately \$9 per member. This funding will come from a combination of a progressive temporary assessment (to a total of \$8 in 2007) and cost savings/increased revenues in Society operations (\$1 initially). The temporary assessment of \$2 per each year (\$2 in 2004, \$4 in 2005, \$6 in 2006 and \$8 in 2008) is just that, temporary. It will allow the Board to find alternative funding mechanisms within the next 4 years. This assessment will be reviewed at least annually, and if funding is found, the assessment may be lowered or canceled before 2007.

One of the issues that have lead to deficit spending for Divisions is that much of the program money raised in the past from companies, foundations, etc. has become significantly more difficult to acquire. Both Divisions and Local Sections have not been able to fund innovative projects because of additional costs. The new, modest Innovative Projects fund will allow both DAC and LSAC to select and help fund those projects that will have the greatest impact. The revised petition, with the temporary assessment and allocations implemented over time is supported by the Board of Directors and the Society Committee on Budget and Finance, and has been overwhelmingly approved by Council via voice vote in New Orleans. Council has approved the distribution formulas for both LSAC and DAC. All the Officers in the Presidential succession at the time the petition was drafted are signatories on the petition.

The petition supports the two major membership components of ACS. These programs that Divisions and Local Sections conduct are of importance to the entire membership. Firming up our volunteer base will strengthen the Society as a whole, and will benefit us all. Look for your ballot in the mail, and please vote!