

THE OCTAGON



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Lehigh Valley Section of the American Chemical Society

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Next Meeting
831st Meeting of LVACS
Thursday, February 16, 2012
Muhlenberg College

5:30 PM - Reception

6:00 PM - Dinner and business meeting

7:30 PM - Talk

Speaker information -
[http://www.asminternational.org/content/docs/
board_maurer.pdf](http://www.asminternational.org/content/docs/board_maurer.pdf)

Contact LuAnn Feist, feist@muhlenberg.edu, 484
664 3260

Additional meeting details will be published on the
section website as they are made available to the
editor. Go to www.lvacs.net click on the meetings
tab.

2012 Spring LVACS Meetings

January - Wednesday, January 18
Webinar

February - 3rd week of February, date TBA
Muhlenberg College

March - Friday, March 16
Moravian College
H.S. Teachers' Night

April - Tuesday, April 24
Student Poster Session
Undergraduate Awards Night

May - Date TBA
A Night at Steel Stacks

LV-ACS Scholarship for Organic Chemistry

The Lehigh Valley Section of the American Chemical Society will award its annual Scholarship for Organic Chemistry this May. To be eligible, students should be below the junior level, currently enrolled in organic chemistry at an institution in the section, and a chemistry, biochemistry, or chemical engineering major. The competition entails taking the ACS Organic Chemistry Examination (45%), a letter of recommendation from the student's organic chemistry professor (10%), and an essay on a topic in organic chemistry (45%). The value of the scholarship is \$1000. Additionally, the top essay will receive \$100. Details about the exam, letter, and essay follow below. Students should indicate their interest in the scholarship in advance of 27 April 2012 to Dr John Freeman, Jfreeman@po-box.esu.edu.

ACS Organic Chemistry Examination: The exam will be administered on Saturday, 28 May 2012, at Moravian College, Bethlehem, PA from 9:00-10:30 AM. Students should report to the entry foyer of Collier Hall of Science by 8:45 AM. For directions see <http://www.moravian.edu/campusMaps/northBuildings/collier.htm>. Juice and bagels will be available at 8:45 AM.

Letter of Recommendation: Professors writing a letter of recommendation on behalf of a student who is applying for the Lehigh Valley ACS Scholarship should speak to the student's skills in lecture and laboratory in Organic Chemistry I and Organic Chemistry II. Please provide the course grade for Organic Chemistry I and comment on performance on written exams, proficiency in organic lab, and participation in recitations, problem sessions or course-related group work. If possible, address the student's quantitative skills by commenting on her or his performance in quantitative analysis or its local equivalent. The letter of recommendation must be submitted in a sealed plain envelope and signed by the professor over the seal. The student will be required to bring the sealed letter to the ACS Organic Chemistry Exam at Moravian College on 28 April

2012.

Essays: The student should choose a molecule, a group of molecules, or a process in organic chemistry to write about. The essay should be written at a level to interest and educate a general chemist who has completed sophomore-level organic chemistry. Synthesis, mechanism and structural elucidation should be covered for the chosen molecule (or representative examples of a chosen group). If a process is chosen, the physical and chemical basis for its success should be explained. Judicious use of structures is expected. The essay should address the impact of the molecule or process on society and the student's personal interest in it. The essay should run from 1600 to no more than 1800 words in Times New Roman 12 point font with one-inch margins on all sides. Each page should have a header with the student's last name, brief essay title and page number. An additional page with references must be included. References should follow the style of *The Journal of the American Chemical Society* (an article from a recent issue can serve as a model). The winning essay will be published on the section website with a link in the *Octagon*. **The essay will be rated on:**

- 40% - Appropriate depth of coverage of the molecule(s) or process.
- 30% - Appropriate depth of coverage on the impact on society and student's interest.
- 20% - Ease of reading, including grammar, spelling, and logical flow of the material.
- 10% - Appropriate use of references.
- 5% - Penalty for failure to adhere to the formatting rules provided.

LVACS Section Bylaws Approved

The Committee on Constitution and Bylaws (C&B) has completed certifying your Section's bylaws (effective December 5, 2011), which were voted on and approved by your members and for which C&B received the required information December 5.

Attached is C&B's Final Report, which describes the approved changes that have been incorporated in the Section's bylaws. Also attached are the newly certified bylaws, in PDF format for the certified

version and in Word format, in case you wish to submit changes in the future; please use Track Changes or another word processing program.

The older version of your Section's bylaws, dated November 7, 1980, is now invalid. Please either discard any copies of the invalidated bylaws or mark the copies as invalid or superseded as of December 5, 2011.

Thank you kindly for your time and work on your Section's bylaws, and special thanks to Carol Libby, Councilor, and Nigel Sanders, Immediate Past Chair of the Section, for their time and emails to me. We look forward to working with your Section in revising your bylaws in the future, as needed.

Thank you again. Regards,
Barbara F. Polansky, PMP
Staff Liaison and Senior Program Manager
Committee on Constitution and Bylaws (C&B)
American Chemical Society

December LVACS Meeting Wrap-up

The International Students' Chemistry Poster Session was held 1 December 2011 at Lehigh University, Bethlehem, PA, by the Lehigh Valley ACS Section. The event was themed as "Chemistry is Global" and was focused in celebration of the International Year of Chemistry. This meeting was a joint event of the Lehigh Valley ACS and AIChE Local Sections. A \$500 grant to the Lehigh Valley Local Section from the Local Section Activities Committee was used to print a set of student-generated posters displayed and discussed at the meeting. Eight groups of international students studying in the Lehigh Valley from Poland, France, India, China, Syria, Greece, Kenya, and Ghana prepared posters on academic and industrial chemistry in their home nations. Members from area industries (Air Products, Merck, Mineral Specialties, J. T. Baker, National Battery, and Copperhead Pharmaceuticals) discussed the details of chemical industry with each student presenter and dozens of eye-opening

comments were heard among the participants, "How appropriate that the French do research on perfumery, wine-making and cheese chemistry!" "I never knew that the Kenya was the source for pyrethrin insecticide." "I just read Madame Curie was Polish." and "Generic pharmaceuticals have sure become one of India's fastest growing businesses."

The speaker, Steven D. Young, retired Vice President for Basic Research at Merck and Acting Head of Chemistry for BeiGene LTD in Beijing, China, spoke on "The Globalization of Medicinal Chemistry in 2011." Dr. Young was introduced by former ACS President, Paul S. Anderson. Sixty-six chemists and chemical engineers attended the meeting.

Undergraduate Research Poster Session Sponsored by The Lehigh Valley Section of The American Chemical Society

Tuesday April 24, 2011

East Stroudsburg University

5:00-6:15 PM

Preceding the April meeting of the Lehigh Valley Section of the ACS

(Meeting details will be published in the April Octagon and at <http://www.lvacs.net/>)

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

Students wishing to present their work must submit an abstract by **April 13, 2012**, as a Microsoft Word attachment to mjwilson@po-box.esu.edu. Abstracts must be submitted by the student; submissions from the faculty advisor will not be accepted. Please indicate "LVACS Poster Session" in the subject line of your email header. Early submission is encouraged.

Abstract format

Times New Roman font - 12 point, single spaced

TITLE (all capitals)

Authors' names, authors' institutions and addresses

Abstract of research, 150 words maximum

Travel Award

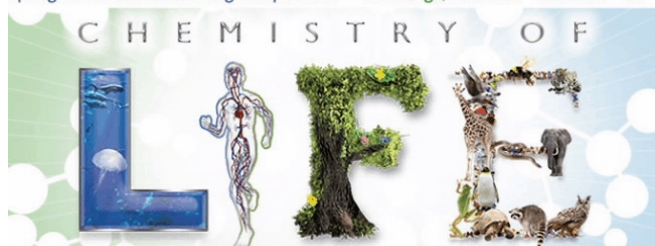
One poster session participant will be chosen to receive a \$250 award to support travel to present research at a national or regional ACS or AIChE meeting.

Other requirements and information

- The poster session is held before the dinner meeting and our annual student awards night.
- Poster presenters must provide their own pins and poster board. Easels will be provided for displaying the posters.
- Abstracts will be acknowledged by an email message that will include details about location, set-up time, and the travel award.
- If you do not get a response within two days of abstract submission contact Michelle Jones-Wilson, or have other questions, mjwilson@po-box.esu.edu.

East Stroudsburg University encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation, have any questions regarding physical accessibility or would like more information, contact Michelle Jones-Wilson at mjwilson@po-box.esu.edu.

Spring 2012 National Meeting & Exposition San Diego, California March 25 – 29



2012 ACS Spring Meeting

Plenary Session

Sunday, March 25, 3:30 – 6: 15 p.m. San Diego Convention Center, Ballroom 20 A

Speakers

• **Roger Tsien**, Investigator, Howard Hughes Medical Institute; Departments of Pharmacology and Chemistry & Biochemistry, University of California, San Diego

• **Laura Kiessling**, University of

Wisconsin, Hilldale Professor of Chemistry and Biochemistry & Laurens Anderson Professor of Biochemistry; Director, Keck Center for Chemical Genomics; Program Director, Chemical Biological Interface Training Program; Editor-in-Chief, ACS Chemical Biology

• **Samuel Stupp**, Board of Trustees Professor of Chemistry, Materials Science, and Medicine; Director, Institute for BioNanotechnology in Medicine Northwestern University

• **J. Craig Venter**, Founder and President, J. Craig Venter Institute; Founder and CEO, Synthetic Genomics Inc.

About the Theme

The theme **Chemistry of Life** was developed by Thematic Program Chair, Dr. Peter Senter (Vice President of Chemistry, Seattle Genetics & Senior Editor, Bioconjugate Chemistry).

The theme will cover advancements made in basic and applied research towards understanding the chemistry of life, both at the molecular and macroscopic levels.

Special interdisciplinary symposia related to the theme are (times and locations forthcoming):

• **Chemical Networks in Biology** - will focus on how the integration of advanced analytical, molecular and computational technologies has been applied towards understanding and controlling cell division and differentiation, designing new molecules against one or more targets using structure-based and in silico polypharmacological approaches, and to identify novel agents with potential for treating neurological disorders, cancer, and many other diseases.

• **Epigenetics: From Basic Principles to Drug Development** will discuss our current understanding of the biochemical basis for differential gene expression and for the inheritance of gene expression states during development.

• **Materials as Medicines: A New Direction for Disease Imaging and Treatment** will cover important research advances and challenges to the development of materials as potential medicines and diagnostic agents.

• **Drug Polypharmacology Prediction and Design** will describe success stories of seamless integration of cost-effective in silico approaches and intensive experimental studies for polypharmacological agent design. In addition, curation of high quality data and implementation of

novel algorithms will also be presented on how to correctly distill data into knowledge for reliable predictions.

- **Protein Conjugates: From Basic Principles to Clinically Active Drugs** will present latest results on site-selective chemical modification of proteins, chemically programmed antibodies and a new approach to vaccines, chemoselective strategies for synthesis of proteins and labeling of nanoparticles, permanent and cleavable linkages for protein therapeutics, photo-immunotherapy for target-specific cancer theranostics, covalent targeting of cancer for imaging and therapy, an antibody-drug conjugate just approved for clinical cancer treatment, and immunopolymeric nanoparticles for targeted drug delivery.

The Kavli Foundation Innovations in Chemistry Lecture

Speaker: Carolyn Bertozzi

University of California, Berkeley
& San Francisco Howard Hughes
Medical Institute
Kavli Lecture

**Monday, March 26, 5:30 p.m. – 6:30 p.m.
an Diego Convention Center, Ballroom 20 A**

Carolyn Bertozzi is the T. Z. and Irmgard Chu Distinguished Professor of Chemistry and Professor of Molecular and Cell Biology at UC Berkeley, and Professor of Molecular and Cellular Pharmacology at UC San Francisco. Dr. Bertozzi is an Investigator of the Howard Hughes Medical Institute.

Dr. Bertozzi's research focuses on applications of chemistry and nanoscience in the study of cellular processes. The Bertozzi group has developed chemical approaches for profiling changes in cell surface glycosylation associated with cancer and identified metabolic pathways in Mycobacterium tuberculosis that are candidate drug targets. The Bertozzi group has developed new materials engineered at the nanometer scale to mimic the biological materials mucin and bone, and has developed biomimetic coatings for nanotubes that enable their use in biological systems.

About Act4Chemistry — ACS' legislative network

Legislation that may impact the chemical

enterprise comes before Congress on a regular basis, and ACS is committed to keeping its members informed and encouraging them to weigh in on high-priority issues. One of the main ways we do this is through Act4Chemistry.

Act4Chemistry — ACS' legislative network — is suite of programs and tools that allows members to become involved in advocacy at the state and federal levels. It provides support to individual members, local sections, state committees, and other groups. Individual members can become involved at different levels of commitment and increase their strengths as advocates by joining advocacy groups. Currently, Act4Chemistry gives over 15,000 ACS members an easy, effective way to voice opinions to legislators. It is one of the most effective groups in the ACS. In 2008, Act4Chemistry members sent 11,500 letters to policy makers on issues like science and math education.

Act4Chemistry focuses primarily on federal science education and R&D policy, but also addresses environment, workplace, and technological competitiveness.

Act4Chemistry Blog Act4Chemistry's social media website that delivers timely science policy news and commentary plus links to the latest articles on science policy matters; includes Act4Chemistry posts from Twitter and Delicious. It's a great way to stay up-to-date on federal legislation. Also, ACS members who join Act4Chemistry may post comments to the blog.

ACS Network's Act4Chemistry Forum Discussion platform that provides members with a way to engage their peers in dialogue about science policy issues.

Act4Chemistry Action Alerts - Members receive timely Action Alerts roughly 8 times per year via e-mail urging them to contact their legislators on issues of concern to ACS members.

Act4Chemistry Action Center Members can communicate directly with their legislators at the state and federal levels on pre-selected issues or compose their own message. Contacting legislators has never been easier!

Group Advocacy Programs Members can increase their involvement with advocacy by joining Local Section & State Government Affairs programs which allow members to work together to plan and carry out face-to-face meetings with policymakers at the state and federal levels.

LVACS Officers - 2010

Chair: Lorena Tribe
218 Luerksen Building
Penn State - Berks
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Reading, PA 19610
lut1@psu.edu

Immediate Past Chair: Nigel Sanders
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Octagon Editor & Webmaster:
T. Michelle Jones-Wilson (see above)
lvacs@ptd.net

Submissions to the Octagon

LVACS members, we want to know about what you do! Please submit pieces of interest to the chemistry community for publication in the Octagon. Articles about chemistry or science in the Lehigh Valley are always welcome. Let us know about upcoming events, educational opportunities or job openings.

The Octagon is published eight times per academic year, September through May. Each issue generally arrives three weeks before a section meeting. Thus the deadline for submissions is approximately one week earlier. Please email the editor at lvacs@verizon.net for specific questions about deadlines for any issue. Email submissions to lvacs@verizon.net

A note about formatting:

Please submit text as simple .txt files, or you may paste the text into an email. If you use later versions of MS word please do not submit documents as .docx files. I cannot always read all content in .docx formatted files. It would be best to use the "save as" option, generally found under the file menu, to save the document as .txt. Also images embedded (pasted) in MS word (particularly later versions) are problematic to extract and put in the newsletter while retaining good image quality. Whenever possible, please submit images in a standard format such as .jpg, .jpeg, .gif, .tiff or .bmp as individual files, rather than embedded within a document. If the placement of images is critical you could submit two versions (one embedded so that I can see where you would like images placed) and the other as separate files so that I may maintain figure resolution.

LVACS Budget for 2012

	Proposed 2011	Actual 2011	Proposed 2012
Income			
Allotment	\$10,570.00	\$10,570.00	\$10,661.00
Dues	\$3,000.00	\$2,810.00	\$3,000.00
Meals	\$4,000.00	\$3,350.00	\$4,000.00
Councilors Travel	\$4,500.00	\$4,172.00	\$4,500.00
Officers Travel	\$300.00	\$300.00	\$300.00
Innovative Grants	\$0.00	\$1,000.00	\$1,500.00
Interest *	\$0.00	\$81.79	\$100.00
Commissions	\$0.00	\$0.00	\$0.00
Iron Pigs	\$1,500.00	\$1,560.00	\$1,500.00
Leadership Course	\$0.00	\$0.00	\$0.00
Transfer from Scholarship Fund	\$0.00	\$250.00	\$250.00
Misc from ACS (Claims)	\$0.00	\$345.00	\$0.00
Total Income	\$23,870.00	\$24,438.79	\$25,811.00
Expenses			
Meals	\$6,000.00	\$6,892.58	\$7,000.00
Executive Committee Mtgs	\$250.00	\$170.90	\$200.00
Section Meetings	\$300.00	\$0.00	\$300.00
Octagon	\$4,000.00	\$4,000.00	\$4,000.00
Councilors Travel	\$6,000.00	\$6,712.71	\$7,000.00
Officers Travel	\$1,200.00	\$1,478.74	\$1,500.00
PJAS Donation	\$250.00	\$250.00	\$250.00
Chemistry Olympiad	\$250.00	\$322.33	\$350.00
Organic Scholarship	\$1,100.00	\$1,100.00	\$1,100.00
Travel Scholarship	\$250.00	\$0.00	\$250.00
Innovative Grants	\$400.00	\$112.80	\$1,500.00
Misc.	\$0.00	\$0.00	\$0.00
H. S. Teachers Notice Pub.	\$0.00	\$0.00	\$50.00
Iron Pigs	\$4,000.00	\$3,616.09	\$4,000.00
Executive Committee Awards	\$0.00	\$88.16	\$100.00
Website Devel & Hosting**	\$0.00	\$0.00	\$0.00
Bank Charges	\$24.00	\$22.00	\$24.00
Leadership Course	\$3,000.00	\$0.00	\$0.00
High School Scholarship + postage			\$5,500.00
Total Expenses	\$27,024.00	\$25,803.07	\$34,174.00
Net Difference	-\$3,154.00	-\$1,364.28	-\$8,363.00

* CD and Scholarship Fund Interest

** Hosting for 3 years

Submitted by Al Martin, Treasurer LVACS 2010-2011