

THE OCTAGON



Volume 91, No. 2, February 2008

Lehigh Valley Section of the American Chemical Society

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February Meeting Announcement:

801st LVACS Meeting:
Muhlenberg College

Date: Thursday, February 28

Location: Muhlenberg College

Reception: 5:30 - 6:00pm in Seegers Union room 111

Dinner: 6:00pm

Meeting: 7:00 pm in Trumbower 130

Talk: At the conclusion of the meeting

Menu: Chicken Supreme, or Sesame Beef with Asian vegetables

Cost: \$20.00 members and guests; students and retirees \$10.00

Contact: LuAnn Feist, 484-664-3260; email feist@muhlenberg.edu by noon Feb 25th, with name, affiliation, menu choice and phone number.

Directions: visit the Muhlenberg website at www.muhlenberg.edu

Speaker: Dr. Tom Lectka

Tom Lectka obtained his B.A. from Oberlin College in 1985. He studied under John McMurry at Cornell, receiving his Ph.D. in 1990. After one year of study in Heidelberg with a Humboldt Fellowship, he became an NIH Postdoctoral Fellow at Harvard in Dave Evans's group. Since 1994, he has been in the Chemistry Department at Johns Hopkins, having been promoted to Professor in 2002. His recent awards include Dreyfus, Sloan, and J.S. Guggenheim Fellowships, and a Merck Faculty Development Award. His interests span problems in asymmetric and polyfunctional catalysis, solid-phase based reactions, and mechanistic chemistry.

Talk:

o-Benzoquinones constitute a diverse class of reactive molecules whose asymmetric chemistry has been scantily explored. From pure synthesis to medicine to biology, o-benzoquinones play important and mechanistically interesting roles. In this talk, we wish to present new catalytic, asymmetric reactions of o-benzoquinones, spanning the reactivity spectrum from simple o-quinones to benzoquinone imides and dimines, as well as o-quinone methides. These reactions give rise to useful products such as alpha-hydroxyesters, unusual alpha-amino acid derivatives, and biologically relevant polycyclic skeletons. In many cases, products are produced in almost complete enantiomeric excess, as well as in excellent yields.

2007-2008 LVACS Meetings

March 21- DeSales-

High School Teachers Night

April - Moravian

Student Awards and Poster Session

May - East Stroudsburg - Pub Night

January Meeting Minutes

Julie Ealy, the new LVACS chair called the meeting to order at 7:30 PM. She introduced the new slate of officers for 2008, got the November minutes approved, then turned the meeting over to Pam Kistler to introduce the evenings speaker Dr. Lawrence T. Stein. In a spirited and high energy presentation Dr. Stein discussed the electronic and corrosion inhibiting properties of Aniline trimers. Thirty five people attended the meeting which adjourned at 8:30.

Respectively Submitted,
Paul Bouis Secretary LVACS

Chem Shorts for Kids - Mustard Mystery

Reprinted with permission from Dr. Kathleen A. Carrado, Chicago Local Section. An archive of all previously published ChemShorts is available online at <http://membership.acs.org/C/Chicago/home.html>.

Kids, is there really silver in that silver coin? Even though our dimes, quarters, half dollars, and "silver" dollars are silver in appearance, those minted after 1971 actually have no silver in them. Silver was completely removed from dimes and quarters in 1965 and replaced with an outer layer of copper-nickel alloy bonded to an inner core of pure copper. The half dollar and "silver dollar" followed suit in 1971. Believe it or not, our "copper" pennies nowadays are mostly zinc and our "silver" coins are mostly copper!

Dimes and quarters minted before 1965 were composed of an alloy of 90% silver and 10% copper, and they are considered somewhat valuable by collectors. You can easily test for the presence of silver with a simple experiment. Using a plastic knife, apply a generous portion of mustard (yes, the yellow stuff you put on your hotdog) to both pre-1965 and post-1965 dimes and quarters. Let them sit overnight on a paper towel. The next day, rub off the mustard. A black spot will remain on the true silver coin but not on a non-silver coin.

What's happening? Mustard contains natural sulfur compounds. Sulfur is an element that is very common in our day-to-day world. Sulfur reacts with the silver to form a black powder (a "precipitate") of silver sulfide. The chemical formula for silver sulfide is Ag_2S . One of the challenges for this experiment will be in hunting down the pre-1965 coins - good luck and happy hunting!

Here is an interesting tidbit. Eggs also contain a lot of sulfur. If you eat eggs with a silver plated fork you will find that your fork has black tarnish on it when you are finished. You made a new chemical while eating your breakfast!

Check out the ChemShorts October 2000 article on "The Science of Money" for other interesting trivia about coins and paper money (<http://membership.acs.org/C/Chicago/ChmShort/CS00.html#10.00>).

The Elementary Education Committee of the ACS Chicago Section presents this column. They hope that it will reach young children and help increase their science literacy. Please share with children and local teachers. Please note: All chemicals and experiments can entail an element of risk, and no experiments should be performed without proper adult supervision.

LVACS Officers - 2008

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This Month in Chemical History

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

In the last column I was musing on topics from the history of chemistry prompted by browsing through “A Philatelic Ramble through Chemistry” by Edgar Heilbronner and Foil A. Miller published by Verlag Helvetica Chimica Acta, Basel and Wiley-VCH in 1998. I will continue this train of thought in this column by concentrating only on 20th Century chemistry. In a chapter on inorganic chemistry, there is a rather surprising stamp from Togo showing Percy Bridgman, a physicist well-known for his work on the effects of high pressures. In the course of that work in 1914, Bridgman prepared a new allotrope of the element phosphorus, that is black phosphorus.

I mentioned Rutherford and Soddy at the beginning of my first column. These scientists and most of the pioneers of radioactivity, who did their work at the end of the 19th and the beginning of the 20th centuries are richly represented on postage stamps. A continuing series of stamps from Sweden (where else?) commemorates Nobel Laureates in all fields and examples show Becquerel (also featured in a French stamp recognizing the fight against cancer); the Curies who are also shown on stamps from France and Monaco; and Rutherford and Soddy. New Zealand honored its native son Ernest Rutherford on the 100th Anniversary of his birth with a handsome first day cover including stamps from New Zealand, Canada, and the USSR. It is reassuring that Lise Meitner, ignored by the Nobel Committee for her contribution to the recognition of nuclear fission, is honored by an Austrian stamp.

Organic chemists have not been ignored by postal services. The Nobel Laureate Richard Willstaetter, of cyclooctatetraene fame, is included in the Swedish series as is Von Baeyer who won his prize in 1905 for his work on organic dyes and “hydroaromatic” compounds. Paul Muller, who synthesized DDT while working for Geigy, won the Nobel Prize for medicine and physiology in 1948 and is portrayed on a stamp from Grenada.

The structure of DNA, that mainspring of so much of modern biochemistry and molecular biology, is well represented on stamps. Usually the double helix of DNA is right-handed as hypothesized by Watson and Crick based on the X-ray work of Wilkins and Franklin. A handsome Swedish stamp shows the X-ray diffraction pattern and the DNA structure together with the names of Crick, Watson, and Wilkins with a mention of their 1962 Nobel Prize. Franklin had, alas, died by that time. But not all stamp designers were sensitive to the nuances of chirality. Stamps issued by Bulgaria and Israel showed a left-handed helix – before Alexander Rich prepared such a form.

Later without comment the Israeli postal service issued another quite different DNA stamp with a right-handed helix.

It may seem provincial, but I want to point out a stamp from Togo that honors Don Cram, the UCLA chemist who shared in the 1987 Nobel Prize for chemistry with Pedersen and Lehn for work on macrocyclic inclusion compounds. The USA issued one of the few commemoratives honoring scientists in 1993 depicting Percy Julian, who developed a practical method for producing cortisone.

So keep your eyes open when you receive snail-mail. It may be adorned with images from the history of chemistry.

LVACS Scholarship Opportunities Organic Chemistry Scholarship

The Lehigh Valley Section of the American Chemical Society’s Scholarship for Organic Chemistry Competition takes in April this spring. Please see the website and the next issue of the Octagon for date and place. The competition entails taking the ACS Organic Chemistry Examination (50%), a letter of recommendation from the student’s organic chemistry professor (10%), and an essay on a topic in organic chemistry (40%). The value of the scholarship is \$1000. Additionally the top essay will receive \$100. Details for the letter and the essay follow below. The student should be below the junior level currently enrolled in organic chemistry attending college at an institution in the section. The student also must be a chemistry biochemistry or chemical engineering major. Students should indicate their interest in the scholarship in advance to John Freeman at 522 Raub St Easton PA 18042 , jcf2@rcn.com

Letters of Recommendation: When writing a letter of recommendation on behalf of a student who is applying for Lehigh Valley ACS Scholarship, please speak to the student’s skills in lecture and laboratory from Organic Chemistry I and Organic Chemistry II. In addition to performance on written exams and a course grade for Organic Chemistry I, it would be helpful to comment on the student’s proficiency in organic lab and his or her participation in recitations. We would also like, if possible, the letter to address the students’ quantitative skills by commenting on their performance in quantitative analysis or its local equivalent. Please place your letter of recommendation in a sealed plain envelope and place your signature over the seal. The student will be required to bring the sealed letter to the ACS Organic Chemistry Standardized Exam (date TBA) Please email Dr. Freeman at jfreeman@po-box.esu.edu if you plan to attend and compete for the scholarship.

Essays: The student should choose a molecule, a group of molecules or a process in organic chemistry including its synthesis or structural elucidation for a molecule or a representative molecule of a group or a number of examples and mechanism for a process. 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 the process or molecule. The essay should run approximately 3 pages +/- a quarter page of text, not including figures in times new roman 12 point font or equivalent with 1 inch margins on all sides. The students name a brief title and page number should appear in the header of each page. An additional page with references should be included. References should be presented as end notes according to the style of the Journal of Biological chemistry.

(See <http://www.jbc.org/misc/ifora.shtml>).

The essay will be rated on:

- 20% - Ease of reading, including grammar, spelling, and logical flow of the material.
- 40% - Appropriate depth of coverage on the development of the molecule.
- 30% - Appropriate depth of coverage on the impact on society and student's interest.
- 10% - Appropriate use of references.
- 5% - Adherence to the formatting rules provided.

New ACS Strategic Plan for 2008 and Beyond

The "ACS Strategic Plan for 2008 and Beyond," which was released in January at www.acs.org/strategicplan , provides a blueprint for how we can work together to advance our vision of "Improving people's lives through the transforming power of chemistry." It marks both the culmination of a careful deliberative process and the launch of an extremely exciting path towards creating the ACS of the future.

Why do we need a new plan?

This new plan will ensure that ACS remains the leading professional society in chemistry for our members and our science. To do this, we need to select priorities from among all of the possible strategic directions that might be pursued. Building on our 132-year history of successful operations, there is much that must be continued, and our strategy recognizes that. At the same time, the world of chemistry and our members is changing quickly. The new strategic plan recognizes these trends and challenges, and charts a course that will enable us to respond.

Process of generating the plan

The ACS Board of Directors worked diligently throughout 2007 to develop the plan. Starting with input from thousands of members, the Board and Senior Staff held a workshop in June of last year. Over the rest of the year, feedback was sought from governance volunteers and staff, and carefully considered

adjustments were made. At its December meeting, the final plan was approved.

Components of the plan

The plan supports the centrality of the ACS vision: "Improving people's lives through the transforming power of chemistry," and mission "To advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people." It articulates core values for the Society, including a passion for chemistry, a focus on members, and an emphasis on professionalism and diversity. Based on an environmental scan, the strategic plan identifies the key issues that will have a major effect on present and future generations of chemists and related practitioners. These trends include globalization, the changing nature of chemistry, its public image, government activity, new technologies and changing lifestyles.

Six focused goals

The centerpiece of the new strategic plan is the six strategic goals of providing indispensable resources, engaging global community, affecting world challenges, communicating chemistry, advocating for the profession and maintaining financial health. Each goal is accompanied by explanatory text and specific strategies.

Opportunity for revision and evolution

Finally, please note that the plan is not "set in stone". The Board and its Planning Committee intend to let the plan evolve from year-to-year. If you have suggestions, ideas, or approaches that should be included, please email them to strategicplan@acs.org at any time.

Retirement Support Group Sponsored by ACS

An increasing number of chemists are approaching normal retirement age or are thinking about or facing early retirement. Surviving and thriving in retirement takes planning. This planning should start at least several years before being faced with critical decisions regarding post-retirement activities and plans and how those will be funded.

The ACS Committee on Economic & Professional Affairs (CEPA) is sponsoring a Special Interest Group on Retirement Planning. The group will meet from 1:30 to 4:00 on Sunday April 6, 2008 at the 234 National Meeting in New Orleans. What follows is a partial list of the critical issues and questions to be considered in planning for your retirement.

Financial Issues

- Do you have a budget plan?
- Corporate benefits after retirement

- How secure is your pension?
 - What is your investment strategy in your retirement years? including estate planning?
 - Reverse mortgage implications
 - Relative social security, 401K and IRA regulations
 - Taxation
 - Establishing trust accounts
 - Inheritance tax rules - limits on capital gains
 - Establishing foundations - for grandkids for tax advantages
- Because of the complexity of the financial issues you may benefit from a financial adviser.

There are many other important factors to be considered. Here is a partial list of questions you might want to think about and discuss with your family:

- Healthcare/insurance planning.
- Medicare
- Prescription drugs
- Health care supplemental insurance
- Long-term care issues

Explore Your Passions

- Where do you want to live, near family, near friends, in a retirement community, near assisted living, in the Sun Belt, etc. or stay put?
- Do you want or need to continue working?
- Do you want to keep active as a professional? Are you interested in volunteer work?
- Interest in continuing education?
- Interest in traveling, learning new things, expand your hobby, etc.?

Think about retirement as another job search. You are looking for ways to spend the rest of your life. What will you do with your time? If you do not have a set plan think about putting together a resume that includes your objective, your skills, and your work or hobby experience.

Come join the discussion group to learn and share ideas for planning your retirement. We can help each other by answering questions and exchanging information. Time will be set aside for the exchange of concerns and ideas. Presenters will include experts in private and governmental retirement and healthcare plans. We plan to have Lisa Balbes, author of "Nontraditional Careers for Chemists" talk about how to prepare for a second career in consulting.

In addition a representative from the ACS Member Insurance Group will discuss what the ACS offers for retired chemists. For more information contact Herb Silverman at agman@cox.net

Regional Meeting Announcements

NERM to Meet in Burlington, Vermont, Late June

NERM, the Northeast Regional Meeting, will take place June 29 – July 2 in Burlington, Vermont, an inviting location for a meeting! NERM 2008 will be held at the Sheraton Conference Center and sponsored by the Chemical Institute of Canada and Strem Chemicals. The meeting is truly international in scope with Canadian chemists attending and participating!

The abstract submittal program is now open at their website, <http://www.nerm2008.org/>. You have an opportunity to nominate the best and the brightest for regional recognition at NERM 2008. Visit the Awards page on the website and submit your choices. Programming for pre-college teachers and a symposium on POGIL. Teachers are encouraged to submit an abstract. Students will have an opportunity to present posters and possibly present orally, as well. See the student page on the NERM 2008 website.

NORM/RMRM To Take Place in Park City, Utah

The Northwest and Rocky Mountain Regions are holding a joint meeting together, hosted by the Central Utah Section. The meeting will be held at the Park City Marriott, June 15 – 18.

Online abstracts are scheduled to open in February; however, an overview of the program is on their website so you can select a topic to submit. In addition to their extensive technical program, NORM/RMRM 2008 has planned wonderful events, beginning with an opening mixer the evening of June 15. There will be a women chemists luncheon, undergraduate dinner, the ACS Leadership Development workshop, awards banquet and much more. Visit their website at <http://www.chem.byu.edu/acs> for details.

CERMACS Scheduled for Columbus, OH in June

The Central Regional Meeting is scheduled for June 10 – 14 at the Hyatt Regency Columbus in downtown Columbus. The meeting is planning a very special opening reception that will take place at the COSI. Attendees will be able to tour the museum. Keynote lectures are scheduled each morning from Wednesday, June 11, through Saturday, June 14. Speakers include Carl Kohrt and Rich Rosen from Battelle, Bruce Bursten, ACS; and Professor Ming-Daw Tsai, Ohio State University. Visit their website at <http://www.cermacs2008.org/site/> for details and to submit an abstract.



Call for Abstracts for MARM 2008

<http://www.marmacs.org>



The 40th Mid-Atlantic Regional Meeting of the American Chemical Society
Where: Queensborough Community College, Bayside (Queens), New York
When: Saturday, May 17 to Wednesday, May 21st, 2008

Abstract submission window: Monday, January 7th, 2008 to Monday, March 17th, 2008

Poster and Oral Formats are available

Submit to a specific session or make a general submission.

The following technical symposia are planned:

- Analytical: HPLC Method Development; Protein and Peptide Analysis
- Delaware Valley Chromatography Forum Student Award
- Biomimetic Catalysis and Biocatalysis
- Biochemistry: Bio-Therapeutics; Protein Misfolding
- Chemical Education
- Chemical Evolution
- Chemistry and the Arts
- Clinical Chemistry
- Computational Chemistry
- Environmental Chemistry
- Forensic Chemistry
- Green Chemistry
- HIV/AIDS
- Industrial Chemistry Symposium
- Inorganic Chemistry: Bioinorganic Chemistry; Metal Complexes in Chemotherapy and Diagnostics
- Ionic Liquids
- Materials Chemistry: Nanoscience; Synthetic Molecular Machines and Switches
- Organic Chemistry: Antimicrobials; Arthur C. Cope Scholar Symposium; Organic Synthesis toward Targets of Medicinal Interest; Process Chemistry
- Medicinal Chemistry
- Photochemistry
- Physical Chemistry
- Polymer Chemistry: Polymers in Medicine/Bio-inspired Polymers
- Spectroscopy of Biological Systems; Infrared Spectroscopy

The meeting will also feature plenary lectures by:

Ronald Breslow, Columbia University, *The Invention of SAHA, an Approved Anticancer Medicine with a Novel Mechanism of Action*

Roald Hoffmann, Cornell University, *The Chemical Imagination at Work in Very Tight Places*

In addition to the stimulating technical programs, we will have programs on Careers in Chemistry, workshops for Chemical Educators, ACS Leadership Development workshops, Student Affiliates activities, and an Industrial Chemistry Award Symposium. MARM will also host meetings of the Royal Chemical Society and the Women Chemists Committee, as well as the 56th NY-ACS Undergraduate Research Symposium. You may also visit the MARM 2008 Vendor Exhibition, and enjoy social events, including a barbeque and Awards Banquet.

We invite your participation in the meeting and encourage oral and poster abstract submissions at:

<http://www.marmacs.org>

Undergraduate Research Poster Session

Sponsored by
The Lehigh Valley Section of The American Chemical Society

April 22, 2008

Moravian College

5:00-6:15 PM

Preceding the 803rd meeting of the Lehigh Valley Section of the ACS
(Meeting details will be published in the April Octagon)

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 14, 2008**, as a Microsoft Word attachment to an email to cblibby@cs.moravian.edu. Please indicate "LVACS Poster Session" in the subject line of your email header. Early submission is encouraged.

Abstract format

Times font

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

An exciting guest will be attending the poster session and giving the after dinner address: Madeline Jacobs, Executive Director of the American Chemical Society.

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 meeting room, set-up time, and the travel award.

If you do not get a response within two days of abstract submission or you have any other questions, contact Carol Libby, cblibby@cs.moravian.edu, 610-861-1629

This announcement can be found at <http://www.esu.edu/lvacs/>