



Remsen Award

Judith P. Klinman

**Departments of Chemistry and
Molecular and Cell Biology
University of California, Berkeley**

Enzyme Activation of Dioxygen

**Thursday, June 9, 2005
Johns Hopkins University**

Minutes from the American Chemical Society Council Meeting, March 16, 2005, San Diego, California

by Merle I. Eiss

The council meeting opened at 8:00 AM. The Maryland councilors were in attendance.

The Committee on Nominations and Elections presented four candidates for president-elect 2006. For the fall election, the council selected Catherine T. Hunt, Rohm and Haas Company, Spring House, Penn., and John W. Kozarich, ActivX BioSciences, La Jolla, Calif. George E. Heinz was certified as a petition candidate for 2006 president-elect. Two nominees were selected for Director of District III, 2006-2008: Catherine Fenselau and Madeleine Joullie.

The Committee on Committees presented to council a proposal for establishing a Committee on Ethics. The charge of this committee would be to coordinate the ethics-related activities of the society and to serve as an educational resource and clearinghouse, but not as an adjudication body, for ACS members seeking guidance on ethics issues; to raise awareness of ethics issues through meeting programming and columns/editorials; to review recognition opportunities for acknowledging ethical behavior; and to develop and oversee such other ethics-related activities as will serve ACS members and promote the society's standards of ethical conduct within the profession of chemistry and its related disciplines. The council voted to establish a Committee on Ethics.

As of March 15, 2005, the ACS spring national meeting had attracted 15,385 registrants: 8,372 regular attendees, 4,160 students, 1,624 exhibitors and some guests. The Employment Center had 1300 job seekers for 189 jobs.

The society membership as of December 2004 was 158,127. The council voted to set member dues for 2006 at \$127.

Executive Director Madeleine Jacobs reported that ACS is studying how to embrace the multidisciplinary nature of chemistry today; ensuring that the publishing units, CAS and the Publications Division provide the best and most comprehensive sources of chemical information; crafting a new, expanded and modernized, ACS web site; opening up new opportunities for the ACS and its members in China and India; streamlining ACS programs for members; and developing educational programs and materials for students and teachers.

There was a special discussion item on the council agenda for this meeting: Where will our students come from in the next ten years and where will they go? Councilors participated in a lively discussion of this issue.

The Committee on Budget and Finance reported that the society ended 2004 with a net contribution from operations of \$5,099,000 on revenues of \$419,200,000 and expenses of \$414,700,000. This was \$3,628,000 favorable to the approved budget. After including the results of the Belmont Conference Center, recorded as a discontinued operation, and the Member Insurance Program, the society's overall net contribution for 2004 was \$4,465,000, which was \$3,229,000 favorable to the approved budget.

The Board of Directors reviewed and voted to accept several recommendations from the recent Financial Planning Conference, which provided a comprehensive assessment of the society's financial position and to assess the society's changing risk profile and the potential implications on major ACS funding sources over the next three years.

Continued on page 8

ACS Maryland Section - Officers and Committee Chairs

Section Officers

Chair: Alan C. Samuels, 410-436-5874
alan.samuels@sbccom.apgea.army.mil

Vice-chair: Sandra K. Young
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skyoung@arl.army.mil

Chair-elect: Stephanie J. Scierka
301-975-6448
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Secretary: Lev Ryzhkov, 410-704-3831
lryzhkov@towson.edu

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David Roswell 410-617-2458 droswell@loyola.edu	Charles Rowell 410-647-9452 rowell@toad.net
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Alternate Councilors

Shekar Munavalli, Shirish Shah, Joseph Topping

Members at Large

Maurice Iwunze, Jan Kolakowski, Liina Ladon
Demetrium Michos, Sara Narayan, James Nwaba

Committee Chairs

Student Awards (March):
George Farrant, 410-455-4120
gfarrant@ccbcmd.edu

Remsen Award (May/June): Lev Ryzhkov

Braude Award (October): Charles Rowell

Maryland Chemist Award (December):
Shekhar Munavalli, 410-436-2819
Shekar.munavalli@sbccom.apgea.army.mil

Maryland Service Award:
Shree Iyengar, 410-541-2266

Maryland Section on the Web: <http://mdchem.org>

Webmaster: Sandy Young
(chemists4fun@yahoo.com)
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Programs

Archives: Ernie Silversmith, 443-885-3214

Career Planning: Linh Cheong, 410-762-1159

Earth Day: Paul Smith & Sandy Young

Environmental Issues:
Shirish Shah, 410-704-2720
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Sandy Young

Finance Committee:
Jan Kolakowski,
410-436-2755, jan.kowalowski@us.army.mil

Government Relations:
Shirish Shah & Robert von Tersch

Long Range Planning: Shekar Munavalli

MARM: Shirish Shah & Alan Samuels

Membership: Merle Eiss

Minority Affairs:
Alfred Amah, 410-602-7164,
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Public Relations:
Shirish Shah & Walter Roy,
Walter_Roy@mccormick.com

Retired Chemists: Alvin Bober, 410-581-5321

Women Chemists/Younger Chemists:
Sara Narayan, 410-602-7326
Amanda Miller

Educational Programs:

Chemistry Olympiad/Chem-a-Thon:
Shirish Shah & Mike Zapf,
Mike_Zapf@mccormick.com

Continuing Education/High School Education:
Shirish Shah
Ellen Pisciotta

Kids & Chemistry/Chemistry-in-the-Library:
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Sandy Young

National Chemistry Week (NCW):
Shirish Shah & Sandy Young

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June Dinner Meeting

Thursday, June 9, 2005, Johns Hopkins University, The Mattin Cultural Arts Center

6:00-6:45 PM	Networking and Registration
6:45-7:45 PM	Dinner
8:00-9:00 PM	Keynote Speaker (Remsen Hall Auditorium) Judith P. Klinman, Departments of Chemistry and Molecular and Cell Biology, University of California, Berkeley
9:00-9:30 PM	Refreshments and Discussions

Cost for the dinner is \$25.00 for members; \$20.00 for spouses, retired chemists and guests, and \$10.00 for students. For reservations please contact Shirish Shah at 410-323-0803(H) or by email at dr.shah@juno.com.

Directions: Park in the visitors lot near Garland Hall. Walk to Remsen Hall on the upper quad. From Remsen Hall, walk towards North Charles Street. Halfway between the MSE library (on your right) and North Charles will be the steps leading to the Mattin Center (on your right). A map of the campus can be found at www.jhu.edu/~tour/parking.html.

Enzyme Activation of Dioxygen

The transition from an anaerobic to an aerobic atmosphere, and the concomitant introduction of molecular oxygen as the terminal electron acceptor, provided the energy needed for the evolution of complex organisms on Earth. At the same time, dioxygen presented challenges to emerging aerobes: how to activate the kinetically stable, ground state triplet form of O_2 while avoiding destructive side reactions from the resulting oxygen intermediates. This lecture will focus on four examples of enzymatic activation of O_2 , with a particular focus on the generation and utilization of the superoxide radical. Themes that have emerged from these studies are (1) the presence of discrete O_2 channels in proteins, together with non-metal O_2 binding sites; (2) the importance of local electrostatics in facilitating the uphill process of superoxide anion formation; and (3) the capacity of metal-superoxo-complexes to perform difficult C-H activation chemistry.

About the author. Judith Klinman was born in Philadelphia, Penn. She received both her degree in chemistry and her doctorate in organic chemistry from the University of Pennsylvania. After a postdoctoral fellowship at the Weizmann Institute of Science, in Israel, and an affiliation with the Department of Chemistry at University College in London, England, Dr Klinman, returned to Philadelphia to join the research staff of the Institute for Cancer Research. Also during this time she served as an assistant professor of biophysics at the University of Pennsylvania. In 1978, she accepted a position as assistant professor of chemistry at the University of California, Berkley; she was promoted to full professor in 1982. Since 1993, she has also been a professor of molecular and cellular biology at Berkley. She was chair of the chemistry department from 2000 to 2003, and was the Hildebrand Distinguished Professor, University of California, Berkeley, 2002-2003.

Upcoming meetings and events: July 10, 2005, Section Picnic, Patapsco State Park, McKeldin Area, Pavilion 501. For information, directions, map, and details visit mdchem.org.

Luncheon honors 50-year members

The Maryland Section will hold a luncheon at Belmont on May 27, 2005, to honor its new 50-year members of the American Chemical Society. The luncheon will take place from approximately 11:00 AM until 2:00 PM. This year's honorees are Dr. David S. Ballantine, Dr. Sibyl L. Bane, Dr. William J. Campbell, Dr. Benjamin D. Cowley, Mr. Theodore P. Goldstein, Dr. John W. Lyons, Mr. Duane H. Parker, Mr. Doward B. Patterson, Jr., and Dr. Paul O. P. Tso. Section members are encouraged to attend.

The cost for the luncheon for members will be \$25.00, \$20.00 for retired members, and \$10 for students. Please make reservations with Alvin Bober at adbober@juno.com or at 410-581-5321 (telephone) or 410-581-5785 (fax). Dr Bober can also be reached by writing him at 9800 Middle Mill Drive, Owings Mills, MD 21117. Reservations can also be made with Shirish Shah, 410-323-0803(H) or dr.shah@juno.com.

The 50-year committee members, Alvin Bober, Charles Rowell, Ernest Silversmith, and Shirish Shah, have organized a congratulatory program for this year's honorees.

Maryland Section, Army Research Lab co-sponsor workshop

The ACS Maryland Section and the U.S. Army Research Laboratory will co-sponsor "A Workshop On Materials Characterization Using Small-Angle X-ray Scattering." The workshop will be held Tuesday, July 19, 2005, at the Rodman Materials Research Laboratory, Aberdeen Proving Ground, Maryland.

This workshop will introduce participants to small-angle X-ray scattering (SAXS), a powerful research tool for investigating large-scale structures in materials. The day-long workshop will have a classroom and laboratory portion. The workshop will give participants a practical understanding of small-angle scattering theory and applications, and also a sense of how to design an effective SAXS experiment. The experimental portion of the workshop will be conducted on the customized 3m SAXS instrument located at the Rodman building.

A program for the workshop can be found on the section's web site: mdchem.org. Note that the afternoon laboratory portion of the workshop is strictly limited to 30 participants due to safety and space considerations.

For additional information contact Dr. Rick Beyer at flbeyer@arl.army.mil or 410-306-0893; for reservations, contact Dr. Sandra Young at skyoung@arl.army.mil (subject line "SAXS workshop") or (410) 306-0679. The registration fee is \$25.00 and covers all materials, breakfast, and lunch.

Volunteers needed to organize MARM 2009

Dr. Alan Samuels is looking for volunteers to help organize the 2009 Mid-Atlantic Regional Meeting. The Maryland Section has an opportunity to execute the MARM in 2009, and officers are needed to co-chair the overall forum, the technical committee, publications, publicity, development, treasurer, exhibits, and local arrangements. Also needed are participants who wish to help without committing to a chair. Please contact Dr. Samuels if you can help: Alan C. Samuels, Edgewood Chemical Biological Center, AMSRD-ECP-RT-DP (Building E3330/56), 5183 Blackhawk Road, Aberdeen Proving Ground, MD 21010-5424, or 410-436-5874 (voice), 410-436-8099 (fax), 410-937-8449 (mobile), or at alan.samuels@us.army.mil.

Maryland Section picnic planned

The Maryland Section will hold its annual family picnic on July 10, 2005, from noon to dusk at the Patapsco State Park, McKeldin Area off Marriotsville Road, Pavilion 501.

The section will provide hotdogs, hamburgers, sodas, beer, condiments, paper goods, cups, utensils, etc. Participating families are invited to bring a food dish. Individuals whose last name begins with the letter A through F are asked to bring a dessert; G through L, a salad; M through R, a side dish; and S through Z, a snack.

The McKeldin Area has a ball diamond, basketball court, volleyball court, hiking trails, horseshoe pits, wading stream, and more. There will also be a guided nature walk. Families are encouraged to bring their sports equipment.

The cost for the picnic is \$15.00 per family and \$7.50 per individual. Entrance to the Park is free for seniors(62 & up) and for children under 16. There is a small fee for others.

For reservations, please send checks by June 30, payable to Maryland Section, ACS, to Alvin Bober, 9800 Middle Mill Drive, Owings Mills, MD 21117.

For reservations after the June 30 deadline, please call Dr Bober at 410-581-5321 or email him at adbober@juno.com.

Section Chemagination winners

The Maryland Section Chemagination competition for high school students took place on April 7. The theme for this year's competition was "Life in the Year 2030." Sixty students from six Maryland high schools participated.

Following are this year's winners from the Maryland Section; Each team received a prize of \$200.00, and their poster will be published in the CHEMMATERS Magazine. These teams will next compete in the regional competition to be held during MARM 2005 on May 22 in Rutgers, New Jersey.

New Materials:

Geckstickum Takes To the Field, Revolutionizing Cleats for Athletes
Abby Hunt, Cory Hawkins, Albert Einstein High School
Teacher: Ms. Ann Coren

Environment:

From Handles and Knobs to Fleece and Beyond
Laura Kranish, Bilquis Fassassi, Grace Lerner, Albert Einstein High School
Teacher: Ms. Ann Coren

Medicine/Health:

Sepsimmuno-PCR
Amy Liou, Cynthia Peng, Charissa Tansomboon, Thomas S. Wootton High School
Teacher: Jacqueline Alston

Alternative Energy Sources:

Direct Carbon Fuel Cells: The Future of Power
Elliott Biondo, Adam Farrell, Greg Iannuzzi, Damascus High School
Teachers: Elena Pisciotta, David Culpepper, Dan Welter

June Historical Events in Chemistry

by Leopold May, The Catholic University of America, Washington, D.C.

- June 3, 1873 Birthdate of Otto Loewi, a researcher on chemical transmission of nerve cells. He shared the Nobel Prize in Medicine (1936) with Henry H. Dale for their discoveries relating to chemical transmission of nerve impulses.
- June 4, 1886 Henri Moissan isolated fluorine by electrolysis of solution of KHF_2 in anhydrous HF on this date.
- June 7, 1896 Birthdate of Robert Sanderson Milliken, a researcher in molecular orbital and electronic structure of molecules. In 1966, he received the Nobel Prize for his fundamental work concerning chemical bonds and the electronic structure of molecules by the molecular orbital method.
- June 8, 1940 Edwin M. McMillan and Philip Abelson announced discovery of neptunium on this date.
- June 9, 1862 This is the birthdate of Herbert B. Baker, a researcher on effect of water on chemical change. He was an authority on desiccating gases and poison gases.
- June 12, 1890 Wallace R. Brode, who was born on this date, was an authority on chemical spectroscopy and served as president of ACS.
- June 14, 1965 The paper "Hard and Soft Acids and Bases" by Ralph G. Pearson, which was published in the *Journal of American Chemical Society* (1965, 83, 3533), was received on this date.
- June 15, 1755 Birthdate of Antoine François de Fourcroy, who developed chemical nomenclature with Lavoisier and Berthollet. He described salts such as calcium chloride.
- June 16, 1880 Otto Eisenschiml devised means to determine whether vegetable oils were contaminated with fish oils. He was an American Civil War historian and was born on this date.
- June 18, 1918 Jerome Karle developed methods for determination of crystal structures with x-rays; he won a Nobel Prize (1985) with Herbert A. Hauptman for their outstanding achievements in the development of direct methods for the determination of crystal structures.
- June 20, 1899 W. R. Grace & Co. was incorporated on this date.
- June 24, 1842 In 1895, Karl von Linde constructed equipment by which air could be liquefied on commercial scale. He was born on this date.
- June 27, 1854 Abraham Gesner patented the process for obtaining kerosene by distillation.
- June 29, 1787 Birthdate of Nils G. Sefstrom, one of the discoverers of vanadium in 1830.
- A complete listing of historical events in chemistry is available at <http://faculty.cua.edu/may>.

Correction

In the March issue, the name of the student awardee from Baltimore City Community College was misspelled. The awardee from BCCC is Michael Tamakloe. The Chesapeake Chemist regrets this error.

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Councilor minutes continued

The Board of Directors voted to support the creation of a Joint Board-Council Policy Committee Task Force on Governance Review with the charge to conduct a review of the society's governance structure and constitution and bylaws to ensure that the society has a governing framework to enable it to best fulfill its mission, meet member needs, and remain a world-class organization.

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