

Chesapeake Chemist

*Maryland Section
American Chemical
Society*



Dr. Henry F. Schaefer III

Remson Award Dinner - May 29, 2003

Councilor report from the New Orleans meeting, 22 to 26 March 2003: changes to ACS policy will require membership input

submitted by Charles Rowell

This meeting was very unusual in that it carried out a number of important changes. The membership of the ACS will be asked to vote on these fairly soon in a special mailing. **Please vote** to assure that the new policy has membership input.

The ACS has been struggling with a change in the way dues money is spent. The reduced stock market has put a significant stress on society spending, and a good deal of cost cutting is under way. The proposal here does not help that problem, but the fiscal concern does make a difference.

The problem can be stated easily: the divisions that do much of the work in organizing the technical programs for the two national meetings have not been funded very well. The reason for that goes back to the establishment of these units and does not need to burden us here. The local sections have been funded by money from the dues paid to the national society at a reasonable level. The Internal Revenue Service is always ready to turn the ACS into a trade organization because they can tax us heavily if they do so. The divisions have gotten a sizable amount of their funding from the national meetings, and the IRS says that is not "public money as dues would be."

The petition that passed in New Orleans would convert the source of division funding completely to dues. This would meet the IRS concern. It would also raise the amount of money involved to 20% of the dues dollar; the divisions would get 45% of those dues dollars and the local sections would get 55% of that fund, which would not change their support. The vote at council was overwhelmingly in favor. The board has provided a ramped funding system to help make the conversion over a four-year period. The number of changes in the Constitution and Bylaws is very great. The approval of the changes must include approval by the membership, and that is what you will be asked to do.

Ordinarily, the councilors for the section vote alike, but that was not the case here. One person felt that the impact on programming over the next four years and into the future was going to be too large. There is no doubt that a careful examination of current programming will be required.

The council approved William F. Carroll, Jr., from Occidental Chemical and Michael E. Strem from Strem Chemicals as candidates for the office of president. The council approved bringing the dues to \$120 for next year. It also approved the systems planned to distribute the money from the major motion noted above. Attendance at the meeting was very little affected by war, etc., and the number of papers at 8700 set a new record.

For more information on this important vote, please go to either Maryland Section website: <http://members.acs.org/m/md/> or www.towson.edu/~sshah. Posted on both sites, under News Briefs, is an article entitled "Your Time to Vote: The Petition to Increase Funding for Local Sections and Divisions," written by Ruth Hathaway, chair of the Divisional Activities Committee and Yorke E. Rhodes, chair of the Local Section Activities Committee.

Chesapeake Chemist

Editor: Cindy Kronman
734 Benfield Road
Severna Park, MD 21146
cakvt@hotmail.com

Section Officers

Chair: Walter Roy
410-771-7886

Vice-chair: Paul Smith

Chair-elect: Alan C. Samuels

Secretary: Stephanie Scierka
410-762-1141

Treasurer: Angela Sherman
CND of MD
4701 North Charles St.
Baltimore, MD 21210
410-532-5713

Councilors

Merle I. Eiss Donald Jones
410-484-0521 202-364-2740

David Roswell Charles Rowell
410-617-2458 410-647-9452

Alternate Councilors

Shekar Munavalli Shirish Shah
Linda Sweeting Joseph Topping

Members at Large

Mark Banash Jan Kolakowski
Demetrius Michos James Nwaba
Sandra Young

Committee Chairs

Remsen Award:
Lev Ryzhkov, 410-704-3831

Maryland Chemist Award:
Shekar Munavalli, 410-436-2819

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

Student awards:
George Farrant, 410-455-4120
gfarrant@cbcemd.edu

Mentoring Program/Task Force:
James Nwaba, 410-675-2100 ext. 2650

Education:
Shirish Shah, 410-323-0803

National Chemistry Week:
Shirish Shah and Sandy Young

Chemistry Olympiad:
Mike Zapf, 410-771-7471

Kids and Chemistry:
Shirish Shah

High School Teachers: Ellen Pisciotta

Archives:
Ernest Silversmith, 443-885-3214

Member Assistance:
Merle Eiss, 410-484-0521

House:
Shirish Shah

Public Relations:
Shirish Shah

Publicity:
Donald Jones

Finance:
Jan Kolakowski

Women Chemists:
Sara Narayan

Long Range Planning:
Shekar Munavalli

Minorities:
Alfred Amah, 410-383-5777

Career Planning:
Linh Cheong, 410-762-1159

Government Relations:
Shirish Shah and Robert von Tersch

Retired Chemists:
Alvin Bober, 410-581-5321

Young Chemists:
Amanda Miller

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Send submissions to the editor in electronic format. The Maryland Section is not responsible for opinions expressed herein. Editorials express the opinions only of the authors. The editor is responsible for all unsigned material.

May 2003 Meeting

Thursday, May 29, 2003

The Johns Hopkins University, Mattin Student Arts Center (SDS room on first floor)

Schedule

6:00 - 6:30 pm	Registration & Social
6:30 - 7:45 pm	Dinner
8:00 - 9:00 pm	Remson Lecture (Remson Hall) Dr. Henry F. Schaefer III, "Molecular Anions: A Wealth of Important, Uncharacterized Systems. From Diatomics to DNA Base Pairs and Beyond"
9:00 - 9:30 pm	Get together with Dr. Schaefer

Cost for the dinner is \$25.00 for members; \$20.00 for spouses, retired chemists and guests \$15.00, and \$15.00 for students. For reservations, contact Dr. Shirish Shah at 410-323-0803(H) or via e-mail at dr.shah@juno.com. The Mattin Center is east of the visitor's parking lot towards Charles Street. For a map visit http://webapps.jhu.edu/jhuniverse/information_about_hopkins/visitor_information/how_to_get_here/homewood_campus/parking.cfm.

Molecular Anions: A Wealth of Important, Uncharacterized Systems. From Diatomics to DNA Base Pairs and Beyond

Negative ions are of fundamental importance in chemistry and biology, but are relatively difficult to study in vacuo. In addition to the experimental challenges, some of which are being overcome by the research groups of Kit Bowen and others, molecular anions have proved to be something of a *bete noire* for theoretical chemistry. Although density functional (DFT) methods have proven effective for qualitative electronic structure studies of large neutral molecules and positive ions, it was long thought that all electron affinities predicted by DFT with suitable basis sets would be identically zero, not a particularly enlightening result. Recent work has shown that the early pessimism concerning DFT studies of anions was without merit, and current research is opening many new vistas of molecular anion chemistry. The possibilities for collaboration between theory and experiment in this area are nearly boundless, extending all the way to problems involving models for molecular biology.

About the speaker...

Henry F. Schaefer III was born in Grand Rapids, Michigan in 1944. He received his B.S. degree in chemical physics from the Massachusetts Institute of Technology (1966) and Ph.D. degree in chemical physics from Stanford University (1969). From 1969 to 1987 he served as a professor of chemistry at the University of California, Berkeley. During the 1979-1980 academic year he was the Wilfred T. Doherty Professor of Chemistry and the inaugural director of the Institute for Theoretical Chemistry at the University of Texas, Austin. Since 1987 Dr. Schaefer has been Graham Perdue Professor of Chemistry and director of the Center for Computational Quantum Chemistry at the University of Georgia.

Dr. Schaefer has been invited to present plenary lectures at more than 175 national or international scientific conferences. He has delivered endowed or named lectures or lecture series at more than 30 major universities, including the 1998 Kenneth S. Pitzer Memorial

Lecture at Berkeley and the 2001 Israel Pollak Distinguished Lectures at the Technion, Israel Institute of Technology, Haifa. He is the recipient of nine honorary degrees. He is the editor-in-chief of the London-based journal *Molecular Physics* and president of the World Association of Theoretically Oriented Chemists. His service to the chemical community includes the chairmanship of the American Chemical Society's Subdivision of Theoretical Chemistry (1982) and Division of Physical Chemistry (1992). His major awards include the American Chemical Society Award in Pure Chemistry (1979, "for the development of computational quantum chemistry into a reliable quantitative field of chemistry and for prolific exemplary calculations of broad chemical interest"); the American Chemical Society Leo Hendrik Baekeland Award (1983, "for his contributions to computational quantum chemistry and for outstanding applications of this technique to a wide range of chemical problems"); the Schroedinger Medal (1990); and the Centenary Medal of the Royal Society of Chemistry (London, 1992, as "the first theoretical chemist successfully to challenge the accepted conclusions of a distinguished experimental group for a polyatomic molecule, namely, methylene"). He received the 2003 American Chemical Society Award in Theoretical Chemistry, "for his development of novel and powerful computational methods of electronic structure theory, and their innovative use to solve a host of important chemical problems."

From 1981 to 1997 Dr. Schaefer was the sixth most cited chemist in the world. The Science Citation Index reports that by December 31, 1999, his research had been cited more than 30,000 times. The U.S. News and World Report cover story of December 23, 1991, speculated that Professor Schaefer is a "five-time nominee for the Nobel Prize." His research involves the use of state-of-the-art computational hardware and theoretical methods to solve important problems in molecular quantum mechanics.

Innovative new program brings real world science to students

by Sandra Young

Chemistry in the Library is a joint effort between members of the Maryland ACS, the Kids & Chemistry Program, and The Army Research Laboratory. The program is an effort to reach out to young students in local communities and to help them learn about various aspects of science in the world we live in. The series is targeted to students in the first through eighth grades (first and second graders must be accompanied by an adult). Although the sessions are free, registration for these events is necessary through the host library.

Here is a listing of the programs that have taken place so far and those that are upcoming.

- March 15, 3-5 pm, Slime Science? Students learn about polymers while making different types of slime, Enoch Pratt Library: Hamilton.
- April 19, 2-4 pm, Slime Science, Howard County Library, Elkridge Branch.
- May 10, 3-5 pm, What's in a Color? Students use the scientific method and paper chromatography to unravel the mystery behind color changing markers.
- June 20, 10:30-12:30 am, Hamilton Library, Rocket Science.
- June 21, 2-4 pm, Elkridge Library, What's in a Color?
- July 12, 3-5 pm, Hamilton Library, The Cool Blue Light? Students explore the effects of temperature and pH on a chemical reaction that produces light.
- July 18, 10:30-12:30 am, Hamilton Library, Rocket Science.
- August 15, 10:30-12:30 am, Hamilton Library, Rocket Science.
- August 30, 2-4 pm, The Cool Blue Light?

Chemathon held

by Mike Zapf

The 19th Annual Chemathon took place at the University of Maryland, College Park on Saturday, March 29. Thirty Level 1 and Level 2 teams from area high schools took the challenge of doing chemistry for fun! Thomas Johnston and Fallston High schools were awarded the two top trophies sponsored by Agilent Technologies. The Maryland Section contributed prizes of subscriptions to ChemMatters magazine and Beaker Mugs. Members who participated were Nicholas Fell, Jr., Kelly Van Houton, Suzanne Procell, Diane Schmit, and Mike Zapf. Berta Tsimerman from the Maryland State Police Crime Lab was the featured speaker before the awards ceremony. For further information, see www.chem.umd.edu/chemathon/

Annual section picnic planned for July 13th

The Maryland Section family picnic will be held from noon to dusk, Saturday, July 13, at the Patapsco State Park (Pavilion #501), McKeldin Area, Marriotsville Road. Entrance to the park is free for seniors (62 & up) and children under 16. There is a small fee for others.

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

The cost for this year's picnic is \$15 per family or \$7.50 per individual. The section will provide hotdogs, hamburgers, soda, beer, condiments, paper goods, cups, utensils, etc. To make the picnic a special food fest, we are inviting participating families to bring other picnic dishes. In deciding

what to bring, please use the initials formula shown below, based on the first letter of your surname: A-F, Snack; G-L, Salad; M-R, Side dish; S-Z, Dessert.

To make reservations, please send checks, payable to Maryland Section, ACS, to Alvin Bober, 9800 Middle Mill Drive, Owings Mills, MD 21117, by June 30th. Late reservations can be made by calling 410-323-0803.



June 12, 2003

American Visionary
Art Museum

\$75/person
Sponsorship
Opportunities also
available.

Questions?
Call Melinda Timlen
(410) 568-0160

May Historical Events in Chemistry

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

- May 1, 1493 Paracelsus was born 510 years ago; he was also known as Theophrastus Bombastus von Hohenheim and founded a new school of chemistry, iatrochemistry, which is the application of chemistry to medicine. He believed that the four elements (air, water, earth, and fire) were present in substances as three principles: mercury (volatility and fusibility), sulfur (inflammability), and salt (incombustibility). He was also a physician and developed a cure for St. Vitus Disease.
- May 3, 1852 F. A. Gooch developed filter crucible, electrolytic estimations of metals, and distillation for estimating boric acid.
- May 7, 1909 Edwin H. Land, who developed a light polarizing material called Polaroid and a color photography system, was born on this date. He invented the Polaroid Land camera and founded the Polaroid Corporation.
- May 10, 1830 François M. Raoult, who was born on this day, discovered the law (Raoult's Law) that vapor pressure of a solution is proportional to the number of molecules per unit in the solution.
- May 12, 1910 This the birthdate of Dorothy Crowfoot Hodgkin, who determined the structure of Vitamin B₁₂ using x-rays. She received the Nobel Prize in 1964 for her determinations by X-ray techniques of the structures of important biochemical substances.
- May 15, 1859 This is the birthdate of Pierre Curie, who codiscovered polonium (Po, 84) and radium (Ra, 88) with Marie Curie; he also discovered the phenomenon of piezoelectricity; He, Marie, and Antoine H. Becquerel received the Nobel Prize in Physics in 1903 "in recognition of the extraordinary services they have rendered by their joint researches on the radiation phenomena discovered by Professor Henri Becquerel."
- May 18, 1889 Thomas Midgley, Jr., introduced tetraethyllead as an anti-knock agent in gasoline and was a researcher on organic chlorofluorides as refrigerants. He was born on this day.
- May 19, 1914 This is the birthdate of Max F. Perutz, who studied the structure of hemoproteins using x-ray diffraction. He shared the Nobel Prize in 1962 with John C. Kendrew for studies of the structure of globular proteins.
- May 24, 1783 Aaron Dexter was appointed the first Professor of Chemistry and Materia Medica at the newly organized Harvard Medical School on this date.

50-year membership luncheon scheduled

Congratulations to the Maryland Section members who have reached the ACS 50-year membership milestone. They are Dr. Clarence A. Broomfield, Dr. Patricia Clark, Dr. Carl Kaiser, Dr. John Storey, Dr. Jean Gillen, Mr. Charles F. Bersch, Mr. Frank J. Mathai, Mr. William J. Weber, Dr. Clayton W. Yoho, Dr. George Braude, Mr Robert C. Mavis, and Mr. Glenn E. Fulmer. An luncheon marking the event will be held at Belmont, just off Route 1 in Elkridge, May 23, at noon. Each new 50-year member will be presented with a plaque that the ACS has issued in his or her honor.

Nonprofit Org.
U.S. Postage
PAID
Baltimore, MD
Permit No. 2917

PLEASE DO NOT DELAY - DATED NOTICE INSIDE

Subscribe to the Maryland Section ACS Listserv

To subscribe to the Maryland Section ACS Listserv, send an email to listserv@vm.cfsan.fda.gov with "subscribe acsmd-l <insert your name>" in the message. To send a message to the Listserv, relevant to the Maryland Section (e.g., section notices, local chemistry seminars, job announcements), send email to ACSMD-L@vm.cfsan.fda.gov.

Get your  on the web or via email

Don't forget, the Chesapeake Chemist is also on the internet at two sites now: <http://members.acs.org/m/md/> and at www.towson.edu/~sshah. For faster delivery, consider having the newsletter emailed to you. Just provide the editor with your email address at cakvt@hotmail.com. You can also check either website for information on upcoming meetings and section activities.



micron inc.
ANALYTICAL SERVICES

MATERIALS CHARACTERIZATION

MORPHOLOGY CHEMISTRY STRUCTURE

**OM / SEM / EDXA / TEM / SAED, EPA / WDXA,
XRF / ESCA / AUGER / XRD
DSC / TGA / MFTIR**

**3815 LANCASTER PIKE WILMINGTON DE 19805
Voice 302-998-1184, Fax 302-998-1836**

**E-Mail micronanalytical@compuserve.com
WEB PAGE : www.micronanalytical.com**