

# Chesapeake Chemist

*Maryland Section  
American Chemical  
Society*



Dr. Robert P. Bates  
Food Science and Human Nutrition Department  
University of Florida

Wednesday, September 29, The College of Notre Dame of Maryland

## **Section wins ACS award for Greatest Community Involvement in *Chemists Celebrate Earth Day***

The Maryland Section won an ACS award, for greatest community involvement, for the activities that it sponsored in recognition of Earth Day, which were organized by Sandra Young. Below is an excerpt from Dr. Young's nomination for the award.

The Maryland Section teamed up with the Herring Run Watershed Association and the Alliance for the Chesapeake Bay to host a Pre-Earth Day Clean-Up event (Project Clean Stream) on Saturday, April 3, 2004, from 9 AM until noon in Baltimore City.

The Herring Run site, located between Harford Road and Bel Air Road in Baltimore City, was part of the Herring Run Watershed in Baltimore affected by flooding due to tropical storm Isabel and other storms last year, which caused a significant amount of garbage contamination throughout this section extending over one mile of the watershed.

The section and Whole Foods Inc. donated beverages and snacks for participants to enjoy. The section also donated 50 Earth Day t-shirts for clean-up workers and distributed Earth Day activities to parents and kids who were in attendance. Baltimore City donated trash bags, gloves, and the use of a dumpster at the site.

About 40 section members and students come out to help at the site; the Herring Run Watershed had about 50 adults and kids from Baltimore local neighborhood associations. The event was a huge success, allowing for the removal of 4 tons of garbage from the site. In addition, the event was a good way to promote the section and a start to a cooperative relationship between the Maryland Section and our Baltimore neighbors.

The presence of the ACS at this event generated a feeling of good will from the people of the neighborhood association and the Herring Run Association, especially since many of our participants do not live in the neighborhood. The donation of food, water, t-shirts, and Earth Day information gave the Maryland Section an opportunity to promote some of the varied activities of members, including National Chemistry Week and Chemistry-in-the-Library. Many of the neighbors had never heard of the American Chemical Society and were appreciative of our participation and interested in who we were and what we do.

## **Dr. Shah recognized for volunteer work**

At the Chemluniary Awards ceremony held at the summer ACS meeting in Philadelphia, Dr. Shirish Shah was recognized by the ACS for his volunteer service to the local section. Dr. Shah's hard work and dedication are responsible for many of the events and meetings held or sponsored by the Maryland Section, as well as for much of the recognition received by the section from the ACS.

## **Nominations for Esselen Award sought**

The Northeastern Section of the ACS is pleased to invite nominations for the Gustavus John Esselen Award for Chemistry in the Public Interest. This award, which consists of a \$5000 prize and a medal, recognizes a chemist for outstanding achievement in scientific and technical work that contributes to the public well-being. The criteria and procedures to nominations can be found at [www.nesacs.org](http://www.nesacs.org). The deadline for nominations is October 15, 2004. The award will be presented in April 2005 at Harvard University.

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# September Dinner Meeting

Wednesday, September 29, The College of Notre Dame of Maryland

6:00 - 6:45PM Registration and Social

7:00 - 7:45PM Dinner

8:00 - 9:00 PM Keynote Speaker

Dr Robert P. Bates

Food Science and Human Nutrition Department

University of Florida

Cost for the dinner is \$20.00 for members; \$15.00 for spouses, retired chemists and guests \$15.00, and \$10.00 for students. For reservations, contact Dr. Shirish Shah at 410-323-0803(H) or via e-mail at dr.shah@juno.com.

**Directions:** The College of Notre Dame is located at 4701 N. Charles Street. From the south, turn right onto Homeland Avenue, just north of Cold Spring Lane, and then take the first right into campus parking. From the north, turn left on Homeland Ave., a mile south of Northern Parkway. Then turn right into the parking lot.

## What You Always Wanted To Know about Chemicals in Foods but Were Afraid To Eat

Foods are complex mixtures of chemicals, but with a difference. There is a very important legal distinction between naturally occurring food constituents and other chemicals that end up in food by design or default. Conversely, the much more important matter of chemical compatibility--dictated by human physiology and nutritional biochemistry and vital to well-being, health, performance, and survival--is often ignored or misinterpreted by vocal, yet chemically illiterate, groups. Despite considerable progress in understanding the science and technology of foods, culture and perception have a far greater influence upon food acceptance and regulation than the reality of nutrition and toxicology. Paradoxically, as science uncovers more about the complex interactions of foods with the human body, the less confident and more confused the public becomes regarding the safety, value, and nutritional efficacy of the U.S. food supply. Food additives and now phytochemicals are examples of food consumption concerns that should also stress total diet, lifestyle, and common sense. This presentation will deal with both essential and trivial food constituents and emphasize some of the positive and negative aspects of each. Despite our imperfect and changing knowledge, a better appreciation of the chemistry and metabolism of foods has dramatic potential for improving health and well-being, while ignorance is sure to have the opposite effect.

**About the speaker.** Robert P. Bates received his B.S. degree in food technology from MIT. After several years in the food industry, he obtained an M.S. degree in food science from the University of Hawaii and a Ph.D. in food science from MIT. After a year at the Institute of Nutrition of Central America and Panama in Guatemala, he joined the University of Florida where he has been for over three decades. He is presently a professor of food science in the Food Science and Human Nutrition Department. Bates' areas of interest are food processing and utilization, small-scale process and equipment development, fermentation technology and byproduct recovery, food product development, and international technical assistance. His major responsibilities involve teaching graduate and undergraduate food processing, fermentation, and product development courses, and conducting research/extension activities in home, community, and small-scale industrial food processing operations. He has completed

short- and long-term international assignments in many countries in the Caribbean, Central and South America, and Asia. He fields frequent inquiries on food science and technology and related subjects from national, international, and industrial sources. Bates has developed and presented many short courses in the U.S. and overseas and has been an ACS tour speaker on various food science and technology topics for over 20 years.

## **Section supports ACS programs for high school students**

by Mike Zapf

Last Spring, the Maryland Section supported two local programs for high school students. The 20th Annual Chemathon took place on March 27, 2004, at the University of Maryland, College Park. Thirty-six schools competed at two levels in a day of chemistry fun by performing many laboratory exercises, including a fast-paced Chemical Jeopardy. ACS members helped as judges, and the section participated on the committee by organizing the top prizes. The section gave subscriptions to ChemMatters magazine and beaker-mugs. This is a great way to enjoy chemistry and remember forgotten chemical facts.

The 36th International Chemical Olympiad Exam was given to 9 students at Towson University on April 17. Participating students were selected by their teachers. The section is permitted, based on our size, to test 11 students. This very competitive exam has two written parts and a lab practical. The students came from Key School, Mount Saint Joseph, Loch Raven, Liberty, Fallston, and Atholton high schools. Although, we did not get a student into the Olympics, Mr. Thomas Comberiate of Mount Saint Joseph was given a certificate for excellent performance on the exam. Over 800 students were tested nationally. The International Chemical Olympiad was held in Kiel, Germany, in July. Thanks to the Towson University Chemistry Department for hosting the exam and for providing technical support.

## **A field trip for students interested in chemistry**

One long-term goal of the Eastern Analytical Symposium is to enhance the number and diversity of students opting for careers in chemistry. In our pre-college and college outreach for physical science-oriented students from the Mid-Atlantic area, we are planning a program to allow high school students to experience a day in the life of a professional chemist. They will interact with outstanding chemists in a full-day program that will take place at the 2004 Eastern Analytical Symposium. The seminar will be held at the Garden State Exposition Center, Somerset, N.J., on November 16., from 10 AM to 3:30 PM.

Members of ACS College Student Affiliates will pair up with the high school science students to visit the exhibition of scientific equipment and attend any technical talks they may find interesting. The invited students will have an opportunity to hear and see how professional chemists thrive in the 21st century.

Three other seminars are designed for college and graduate students, but may also interest some high school students: "Professional Analytical Chemists in Industry: What does an Analytical Chemist Do?" on November 18, presented by Proctor and Gamble; "What Does a Pharmaceutical Chemist Do in the Drug Discovery Process," November 17, presented by Schering-Plough, Merck, and Bristol-Meyers, Squibb; and "Chemistry, Art and Heritage Conservation," November 15, arranged with the New York Conservation

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## Middle Atlantic Regional Meeting (MARM) 2005

MARM 2005 is scheduled for May 22-25 at Rutgers University, New Brunswick, N. J. Chemistry at the Cross Roads of Science, this year's theme, will explore the chemist's role in pushing back the frontiers of science. Rutgers University, neighboring sections, society divisions and local allied societies are working with the North Jersey section to plan the meeting.

All MARM region ACS members are invited to attend this meeting as a presenter and/or an attendee. The call for papers and registration will open **November 15, 2004**.

### Program Highlights

**Sunday** - Education is the theme education for our youth, teachers and the public.

**Monday** - Bench To Pilot Plant

Biomarkers: Quantification; PK/PD Correlation and Bioanalytical Issues; Kinases; Freshman Chemistry for Engineering Students; Solid State and Materials Chemistry; GPCRs/Virtual Screening; Marine Environment Chemistry; Pharma Profiling; About the General Chemistry Laboratory

**Tuesday** - Visions in Chemistry (sponsored by Aventis)

Environmental/Green Chemistry; Ion Channels; Novel Instrumentation and Applications of Mass Spectrometry in ADME Studies; Undergraduate Research; Research Funding Opportunities for Primarily Undergraduate Institutions; Proteases; Applications of LC-MS in Drug Discovery / Development

**Wednesday** - Gov- Affairs Workshop

Celebrating Chemistry; Environmental/Green; Forensic Chemistry Education; Advances in Organic Synthesis; Functional Proteomics and Cell Signaling

Mini-Symposia keyed to the interests of local industries will be packed into the PM. The NJACS Roving Feast, vendor exhibits, and poster sessions will provide networking opportunities to share with your peers, while discovering the latest vendor innovations.

Students will get an opportunity to share their research in talks and posters and also learn about the latest in their chosen fields of study from world class scientists. The ACS Career Services employment center will be on hand to connect students with many opportunities to meet employers and to learn how to sharpen their job searching skills.

Our Committees for Women Chemists, Younger Chemists, Safety and Minority Affairs are planning programs. We also have the favorites from previous MARM meetings on Industrial Innovations, Chemagination, and Delaware Valley Chromatography Forum Student Awards.

Please visit our website <http://www.marmacs.org/> for more information.

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### **Field trip continued**

Foundation, and featuring conservation scientists from the Winterthur Museum, the Jewish Theological Seminary and the Museum of Modern Art.

Further information may be obtained from the EAS web site [www.eas.org](http://www.eas.org). If you are interested in bringing a group of students, please contact Sheree Gold, EAS Executive Secretary at 610-485-4633 (telephone), 610-485-9467 (fax), or [easinfo@aol.com](mailto: easinfo@aol.com) (email) to register your group or to obtain more information.

# September Historical Events in Chemistry

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

September 2, 1853	This is the birthday of Wilhelm Ostwald, who did research on affinity, mass action, theories of solutions, and conductivity (Ostwald's Law of dilution and conductivity). He received the Nobel Prize in 1909, in recognition of his work on catalysis and for his investigations into the fundamental principles governing chemical equilibria and rates of reaction.
September 4, 1913	Stanford Moore who was born on this date, shared the Nobel Prize in 1972 for the development of methodology for elucidation of structural properties of protein molecules with William H. Stein and Christian B. Anfinsen.
September 7, 1829	Birthdate of F. August Kekulé, who described the quadrivalence of carbon and a structural theory of organic chemistry in 1858, synthesized acetylene in 1864, and conceived the ring structure of benzene in 1865.
September 9, 1929	Seventy-five years ago, the discovery of Konel, a cobalt nickel alloy, was announced by Westinghouse Laboratories.
September 13, 1886	Robert Robinson, a researcher in plant pigments, alkaloids and phenanthrene derivatives, was born on this date. He was awarded the Nobel Prize in 1947 for his investigations on plant products of biological importance, especially the alkaloids.
September 15, 1972	Michael B. McElroy and Thomas M. Donahue presented a detailed chemical dynamic model for a moist Martian atmosphere.
September 19, 1861	Alexandre M. Butlerov presented first definition and use of the term, chemical structure, before Speyer Congress on this date.
September 20, 1842	Birthdate of James Dewar, who invented the vacuum flask (Dewar flask) in 1892. He was the first to liquefy hydrogen in 1899 and showed many common substances phosphoresce at liquid air temperature.
September 24, 1874	Birthdate of Alexander Findlay, an authority on the phase rule.
September 27, 1934	Announcement of the discovery of a synthetic abrasive to replace diamond was made on this date.
September 28, 1881	On this date, Solvay Process Co. was incorporated.
September 30, 1802	Antoine J. Balard, who was born on this date, discovered bromine in seawater in 1826, hypochlorous acid, and chlorine monoxide.

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## Mark your calendars:

October 17-23, 2004	National Chemistry Week events, to include Chemistry Magic Show. This year the theme for NCW is Health and Wellness.
October 26, 2004	Braude Award Dinner Meeting, Villa Julie College
December 8, 2004	Maryland Chemist Award, Berkshire Hotel, Towson

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## Maryland Section has new website

Bookmark the section's updated website at [www.mdchem.org](http://www.mdchem.org) for all the latest information on the section's activities, planned events, and contact information for officers and committee members. Information on section activities, etc., is also available at Dr. Shah's webpage: [www.towson.edu/~sshah](http://www.towson.edu/~sshah).

Also, don't forget, that the Chesapeake Chemist is available on the web as well as by email. For faster delivery, just provide the editor with your email address at [cakvt@hotmail.com](mailto:cakvt@hotmail.com).



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