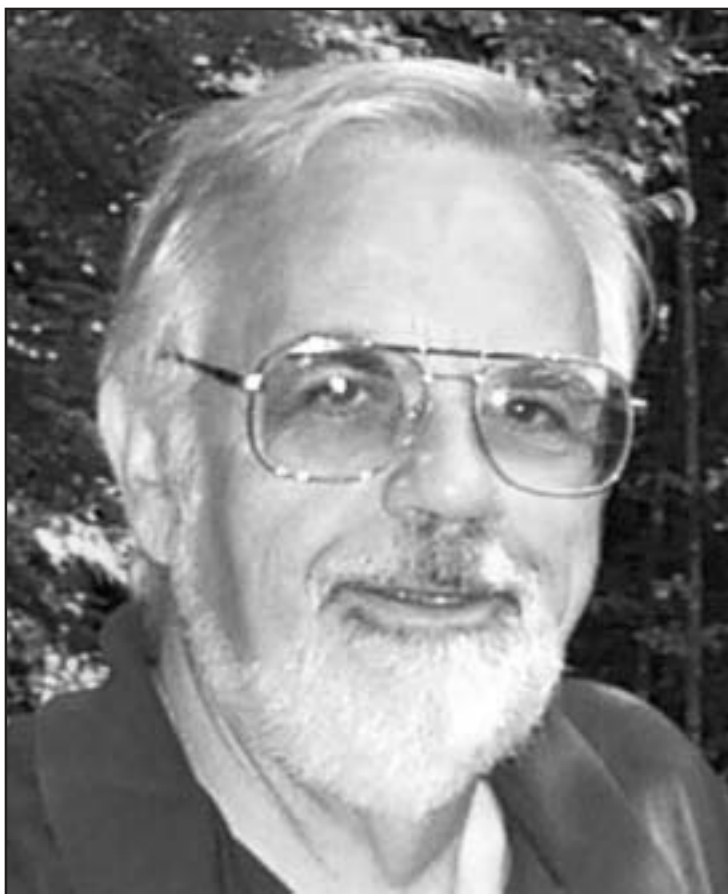


Chesapeake Chemist

*Maryland Section
American Chemical
Society*



Dr. Jerry A. Bell
Education Division, American Chemical Society

Teaching Science and Scientific Teaching

Thursday, September 28, 2006, College of Notre Dame of Maryland

September 2006

Volume 63, Number 1

ACS announces Chemagination winners

The American Chemical Society (ACS) Office of Community Activities and the ACS Committee on Community Activities would like to thank everyone who participated in the national Chemagination contest.

Articles and videos were sent to a team of six judges around the country, who evaluated the entries. Below are the national winners for Chemagination.

Alternative Energy Sources: “Coalspark: The Direct Carbon Fuel Cell”

This is a fuel cell designed for home use. It is powered by highly refined coal at twice the efficiency of combustion.

Damascus High School, Damascus, Md.

Elliott Biondo, Adam Farrell, and Gregory Iannuzzi

Environment: “From Handles and Knobs to Fleece and Beyond!”

Using a hydrolytic enzyme to help break the cross-links of thermosetting plastics for recycling.

Albert Einstein High School, Kensington, Md.

Bilqis Fassassi, Laura Kranish and Grace Lerner

Medicine/Health: “The Transdermal Nutrient System”

One square patch for those who can't have three square meals.

Ridgefield Park High School, Ridgefield Park, NJ

Sapna Shah and Alexandra Vargas

New Materials: “Gecko Cleat”

Scientists used the technology of Van der Waal's forces found on Gecko feet to revolutionize sports for athletes.

Albert Einstein High School, Kensington, Md.

Cory Hawkins and Abigail Hunt

Winners in each category receive a \$600 U.S. savings bond. All entrants in the national contest receive, through their advisors, a certificate of participation in the contest.

2008 ACS National Awards –Call for Nominations

The American Chemical Society Awards Program is one of the means by which the society meets its obligation “to encourage...the advancement of chemistry in all its branches, the promotion of research in chemical science and industry, [and] the improvement of the qualifications and usefulness of chemists.” The continuing excellence of the ACS awards program requires that a number of highly qualified chemistry professionals be nominated and that great care be taken in preparing the nominations.

Nominations for 53 national awards administered by the ACS to be presented in 2008 are being solicited. Forms for nominations and supporting information, and a detailed description of ACS national awards are available at <http://chemistry.org/awards>. Any individual may submit a nomination for an award, unless that individual is a member of the

Continued on page 6

ACS Maryland Section - Officers and Committee Chairs

Section Officers

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Paul Smith, Joseph Topping

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Jan Kolakowski, Liina Ladon, James Nwaba

Committee Chairs

Student Awards (March):
George Farrant, 410-455-4120
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Remsen Award (May/June): Lev Ryzhkov

Braude Award (October): Charles Rowell

Maryland Chemist Award (December):
Shekhar Munavalli, 410-436-2819
shekar.munavalli@us.army.mil

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

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Earth Day: Paul Smith & Sandy Young

Environmental Issues:
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Continuing Education/High School Education:
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Ellen Pisciotta

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

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Shirish Shah & Sandy Young

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September Dinner Meeting

Thursday, September 28, 2006, College of Notre Dame of Maryland

6:00-6:30 PM	Arrival and Registration
6:30-7:30 PM	Dinner
7:30-9:00 PM	“Teaching Science and Scientific Teaching” Dr. Jerry A. Bell, Senior Scientist Education Division, American Chemical Society

Cost for the dinner is \$20.00 for members; \$15.00 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: 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.

Teaching Science and Scientific Teaching

Research on teaching and learning over the past several decades has provided a better understanding of how students learn and the teaching methods that are most effective in supporting student learning in the sciences. “There is mounting evidence that supplementing or replacing lectures with active learning strategies and engaging students in discovery and scientific process improves learning and knowledge retention,” according to an article in *Science*, 2004, 304, 521-2. All teachers should be aware of these results and learn how to incorporate new strategies in their classrooms and laboratories. This presentation includes active audience participation/learning.

About the speaker.. Jerry A. Bell has been a senior scientist in the Education Division of the American Chemical Society since 1999. He taught at the University of California-Riverside for five years and for 25 years at Simmons College, before joining the American Association for the Advancement of Science as director for science, mathematics, and technology education programs in the Education and Human Resources Directorate in 1992. From 1984-86 he served as director of the Division of Teacher Preparation and Enhancement in the Directorate for Science and Engineering Education at the National Science Foundation. His major professional interests have focused on science (chemical) education at all levels, especially the use of hands-on approaches to teaching and learning. He developed and published new laboratory materials for almost all the courses he taught, is an advocate for small scale techniques in all instructional chemical laboratories, and committed to the use of lecture experiments as an effective method for communicating chemistry. In his present position, he is chief editor for the ACS textbook, *Chemistry*, and directs the Office of Graduate Education.

Maryland chemistry undergraduates, 2004-2005

List is total number of chemistry graduates for each college or university, with the number of ACS certified in parentheses: Goucher, 8(2); Johns Hopkins, 16(16); Loyola, 12(7); UMBC, 12(12); UM College Park, 58(0); UM Eastern Shore, 4(4); McDaniel, 5(0); Morgan State, 10 (7); Saint Mary’s, 7(6); Salisbury, 13(2); Towson, 15(1); Washington, 10(6).

Submitted by Dr. Shirish Shah, Source: C & E News August 2006

2007 MD ACS Ballot

Below is the ballot for the 2007 Maryland Section Executive Committee.

Please mark the ballot and then place it in an envelop, with your name written on the outside of the envelope. Mail your sealed ballot to Dr. Shirish Shah, c/o Chemistry Department - Smith Hall, Towson University, 8000 York Road, Towson, MD, 21252. The ballots will be counted by the secretary of the Maryland Section for the official count.

Chair-Elect: Walter Roy	_____	Members at Large:	
Secretary: Sara Narayan	_____	Karen Hatwell	_____
Treasurer: Angela Sherman	_____	Maurice Iwunze	_____
No Councilors and Alternate Councilors		Liina Ladon	_____
need to be elected this cycle as their terms		Angela Winsteadt	_____
are continuing.		Takashi Tsukamoto	_____

September Historical Events In Chemistry

by Leopold May, The Catholic University of America, Washington, DC

- September 1, 1909 Rohm & Hass Co. was founded on this date.
- September 3, 1869 Fritz Pregl, who did research in micro-chemical analyses, was born on this date. He received the Nobel Prize in 1923 for his invention of the method of micro-analysis of organic substances.
- September 6, 1906 Luis J. Leloir was born. He isolated glucose 1,6-diphosphate, guanosine diphosphate mannose, uridine diphosphate glucose, and isolated uridine diphosphate acetylglucosamine. In 1953, he synthesized trehalose with E. Cabib and sucrose with C. Cardini and J. Chiriboga in 1955. In 1970, he received the Nobel Prize for discovery of these sugar nucleotides and study of their role in biosynthesis of carbohydrates.
- September 8, 1848 Viktor Meyer, who was born on this date, discovered thiophene, oximes, and the vapor density method.
- September 13, 1937 Polaroid Corporation was incorporated on this day.
- September 16, 1853 Albrecht Kossel, a researcher in chemistry of cells and proteins, was born on this date. He received the Nobel Prize in 1910 in recognition of the contributions to our knowledge of cell chemistry made through his work on proteins, including the nucleic substances.
- September 18, 1907 Edwin M. McMillan, who shared the Nobel Prize in 1951 with Glenn T. Seaborg, for discoveries in the chemistry of the transuranium elements, was born on this day. He codiscovered neptunium with P. H. Abelson, 1940, and plutonium with Glenn T. Seaborg, J. W. Kennedy, and A.C. Wahl, 1940.
- September 22, 1791 Michael Faraday was born on this day. He discovered electromagnetic induction, specific inductive capacity, rotation of plane-polarized light in a magnetic field and liquefied chlorine and other gases.

Continued on page 7

The Ephraim and Wilma Shaw Roseman Colloquium Series

Johns Hopkins University Chemistry Department

Lectures are in Remsen Hall 233, Tuesdays, at 4:15 pm, unless otherwise noted. For more information contact Rosalie Elder, 410-516-7432. The schedule is also available at <http://chemistry.jhu.edu/colloquia.html>.

- September 26 Professor Hung-wen (Ben) Liu, University of Texas
Townsend “Mechanistic Studies of Unusual Biosynthetic Transformations”
- October 3 Professor Bruce E. Koel, Lehigh University
Yarkony “Site-Directed Chemistry and Catalysis of Pt-Sn Alloys and Nanostructured Sn-Oxide Films on Pt”
- October 10 Professor Michael T. Green, Pennsylvania State University
Karlin “The Role of Thiolate-Ligation in Heme Protein Catalysis”
- October 17 Professor Joseph M. Fox, University of Delaware
Posner “Strain as a Design Principle in Synthesis”
- October 24 Professor Richard McCullough, Carnegie Mellon University
Tovar “Printable Electronics: From Living Synthesis to Nanostructured Self-Assembly to Transistors and Sensors on a Chip”
- October 31 Professor Justin P. Gallivan, Emory University
Hendrickson “Reprogramming Bacteria with Small Molecules and RNA”
- November 7 Dr. Mark Knickelbein, Argonne National Laboratory
Bowen “Magnetism in Metal Clusters and Complexes”
- November 14 Professor Christopher Cramer, University of Minnesota
Roth “Characterizing the Activation of Oxygen by Mono- and Binuclear Copper Complexes”
- November 28 Professor James R. Engstrom, Cornell University
Fairbrother “Organic-on-inorganic Thin Film Deposition and Vice Versa”
- December 5 Professor David E. Benson, Wayne State University
Karlin “Using Electron Transfer to Design Functional Biomolecule-Semiconductor Interfaces”
- December 12 Professor John Blanchard, Albert Einstein School of Medicine
Townsend of Yeshiva University
“The Multiplicity of Mechanisms of Antibiotic Resistance in Mycobacterium Tuberculosis”
-

ACS National Awards continued

selection committee for the same award. However, selection committee members may submit nominations for other awards. Nominations and inquiries concerning awards should be directed to the Office of the Awards Programs, awards@acs.org. The deadline date for all nominating material for 2008 ACS National Awards is November 1, 2006. Earlier transmittal is encouraged.

Historical events continued

- September 24, 1895 Andre F. Courmand, who performed the first clinical cardiac catheterization, was born on this date. He shared the Nobel Prize in Medicine in 1956 with Werner Forssmann and Dickenson W. Richards for their discoveries concerning heart catheterization and pathological changes in the circulatory system.
- September 26, 1754 Joseph-Louis Proust was born. He articulated the Law of Definite Proportions.
- September 29, 1901 Enrico Fermi, a researcher on neutron-induced nuclear reactions, was born on this date. In 1938, he was awarded the Nobel Prize in Physics for his demonstrations of the existence of new radioactive elements produced by neutron irradiation, and for his related discovery of nuclear reactions brought about by slow neutrons.
- September 30, 1939 Jean-Marie P. Lehn, a researcher on 3-dimensional stacked-layer polycyclic compounds, was born on this day. In 1987, Donald J. Cram, Charles J. Pedersen and he jointly received the Nobel Prize.

For more historical facts on chemistry, visit Dr. May's website at <http://faculty.cua.edu/may/may.htm>.

An informal association, Society for the Propagation of the Music of the Chemist-Composers, has been formed to publicize the music of chemist-composers. For information, see <http://faculty.cua.edu/SPMCC.htm> <<http://faculty.cua.edu/SPMCC.htm>>

Chair, Department of Chemistry, Towson University

Towson University invites applications for the position of chair of the Department of Chemistry at the rank of full professor. The Department of Chemistry, at Towson University, is a growing ACS accredited department, offering undergraduate degrees in chemistry, forensic chemistry and medicinal chemistry and new master's degrees in forensic science and chemical education. The department also supports interdisciplinary programs in environmental science and molecular biology/bioinformatics/biochemistry. The department currently has 16 tenured and tenure track faculty, 6 staff, and approximately 200 chemistry and forensic chemistry majors. Towson University is Maryland's metropolitan university, enrolling 19,000 students on its attractive campus in suburban Baltimore. Candidates must have a Ph.D. in chemistry or a closely related area, and possess excellent leadership, administrative and interpersonal skills, have exemplary professional and research accomplishments, and the ability to attract external funding. The department chair will provide dynamic leadership and promote the department mission within the university.

Applicants should send curriculum vitae, a statement on the role of the Department Chair, a research plan and the names and addresses of three references to Dr. David Larkin, Chair, Chemistry Chair Search Committee, Office of the Dean, The Jess and Mildred Fisher College of Science and Mathematics, Towson University, 8000 York Road, Towson, MD 21252. Review of applications will begin on September 29, 2006, and continue until the position is filled. Towson University is an equal opportunity/affirmative action employer and has a strong institutional commitment to diversity. Women, minorities, persons with disabilities and veterans are encouraged to apply.

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Fall 2006 - Important Dates

October 22-28 - National Chemistry Week

Wednesday, October 25 - October Dinner Meeting (Braude Award, Catherine Fenselau)
Villa Julie College, Stevenson, Md.

Wednesday, November 15 - November Dinner Meeting (Green Chemistry)
Anne Arundel Community College, Arnold, Md. (tentative)

Wednesday, December 13 - December Dinner Meeting (Maryland Chemist of the Year)
Burkshire Hotel, Towson, Md.

Spring 2007 - Important Dates

March 25-29, 2007 - Spring 2007 ACS National Meeting, Chicago, Ill.

May 16 - 18, 2007 - Mid-Atlantic Regional Meeting (MARM), Collegeville, Pa.



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