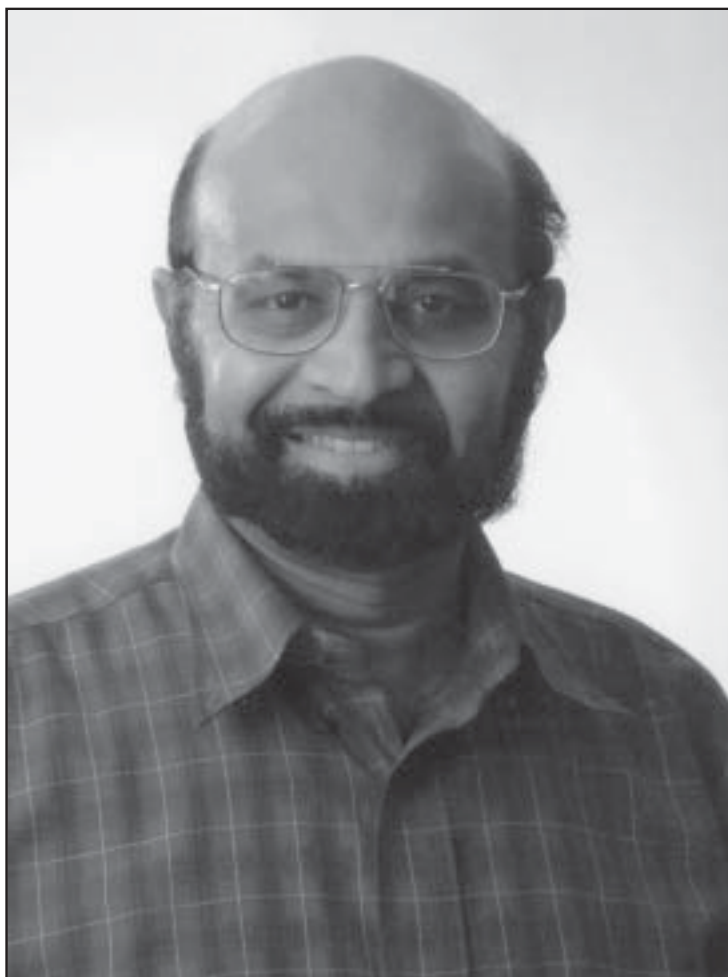


Chesapeake Chemist

*Maryland Section
American Chemical
Society*



Dr. Ramachandra S. Hosmane
2002 Maryland Chemist

Maryland Chemist Award

The Maryland Chemist Award was established in 1962 to recognize and to honor, each year, a member of the Maryland Section for outstanding achievement in the fields of chemistry. The achievement, as originally stated, may be in pure or applied chemistry, chemical engineering, or chemical education. Some recipients have distinguished themselves in management.

The section's Bylaw VIII establishes the rules of selection of recipients of the Maryland Chemist Award. Recommendations of the Awards Committee must be approved by the section officers. The applicable section of Bylaw VIII is quoted below:

"Recipients of the Maryland Chemist Award must have been members of the section for a minimum of five years and have made outstanding contributions to chemistry as defined in the Constitution of the Society (chemistry is defined in broad terms). The work on which the award is based should have been performed in Maryland."

Previous Recipients of the Award

1962 E. Emmet Reid	1976 Richard L. Hall	1989 Catherine Clarke Fenselau
1963 W. Mansfield Clark	1977 Henry C. Freimuth	1990 Alex Nickon
1964 Alsoph H. Corwin	1978 Gunther L. Eichhorn	1991 Cecil H. Robinson
1965 John C. Krantz, Jr.	1979 Emil H. White	1992 Craig A. Townsend
1966 Belle O. Talbot	1980 M. Gali Sanchez	1993 Ernest F. Silversmith
1967 Walter S. Koski	1981 Paul O. P.Ts'o	1994 Yale H. Caplan
1968 George L. Braude	1982 Joseph L. Katz	1995 Richard H. Smith, Jr.
1969 Leslie Hellerman	1983 Shih-Yi Wang	1996 Shekar Munavalli
1970 Paul H. Emmett	1984 Nicolas Zenker	1997 WuCheng Cheng
1971 Giles B. Cooke	1985 John Lambooy	1998 Joel F. Liebman
1972 Arnold M. Seligman	1986 David F. Roswell	1999 Marc D. Donohue
1973 Lester P. Kuhn	1987 Gary H. Posner	2000 Haleem J. Issaq
1974 Joyce J. Kaufman	1988 Edward J. Poziomek	2001 Raymond A. Mackay
1975 Benjamin Witten		

Nominations for the 2003 Maryland Chemist Award

The Maryland Chemist Award Committee is requesting nominations and recommendations for the 2003 Maryland Chemist Award. Supportive documentation should include copies of the resume of the nominee and his/her list of publications. A short statement describing the outstanding contributions of the nominee to scientific research, education, industry, technology, etc., will be helpful and appreciated. Please send nominations to

S. Munavalli
700 Paige Circle,
Bel Air, MD 21014

The deadline for submission of nominations is **April 15, 2003**.

Chesapeake Chemist

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December 2002 Meeting

Wednesday, December 11, 2002

Berkshire Hotel, Towson, Md.

Schedule

- 6:00 - 7:45 pm Registration, social, buffet
- 7:45 - 8:00 pm Announcements and Presentations:
Maryland Chemist Award - Robert von Tersch and Shirish Shah
Award Check - Robert von Tersch and Angela Sherman
Governor's Proclamation - Walter Roy and Charles Rowell
- 8:00 - 9:00 pm Introduction of the 2002 Maryland Chemist Awardee,
Dr. Ramachandra S. Hosmane - Walter Roy
Maryland Chemist Award address:
"Analog of Natural Nucleosides and Nucleotides"
- 9:00 pm Questions and conclusion

Cost of the dinner is \$25 for members, \$20 for nonmembers and retired members, and \$15 for students. For reservations, contact Dr. Shirish Shah at 410-323-0803(H) or via e-mail at dr.shah@juno.com.

Analog of Natural Nucleosides and Nucleotides

"Fat" nucleosides are ring-expanded purine nucleosides containing the 5:7-fused imidazodiazepine or imidazotriazepine ring systems. They are of chemical, biochemical, biophysical, as well as medicinal interest. Chemically, their synthesis can often be challenging as they are prone to rearrangements and ring transformations. Biochemically, they are a rich source of substrates or inhibitors of enzymes of purine metabolism. Physically, they are potentially excellent probes for nucleic acid metabolism, structure, and function because of their unique skeletal, spatial, and conformational mobility and characteristics. Medicinally, they are a potential gold mine of anticancer and antiviral properties, as has been recently discovered. A number of "fat" nucleosides exhibit potent, broad-spectrum, anticancer and antiviral activities with little, if any, toxicity to the host. Our current focus is on prostate and breast cancers, as well as on West Nile, Hepatitis B, and Hepatitis C viruses. Mechanistically, if incorporated the "fat" nucleotides are potential modulators of tumor and/or viral DNA/RNA, which may consequently result in nucleic acid chain termination and hence inhibition of the viral and/or tumor replication.

Directions to the Berkshire: From the Baltimore beltway, I-695, follow to exit 25, Charles Street. If you are traveling east bear right onto Charles Street. If you are traveling west, at exit 25 for Charles Street turn left at the stop sign, then left onto Charles Street. Follow Charles Street approximately 2 miles to Towsontown Blvd. Turn left onto Towsontown Blvd. Follow Towsontown Blvd to West Burke Ave. Bear right onto West Burke Ave. The Berkshire is immediately on the left side as you enter West Burke Ave. (18-story building). Meeting attendees should proceed to the left lane. Turn left into the Berkshire's parking entrance. Turn the corner and make an immediate right into the P2 parking garage. Please the press intercom button for admittance to the elevators. Proceed to the front Desk to get a parking pass required for your car. Look for signs posted in the lobby and elevators to locate the dining room.

Dr. Ramachandra S. Hosmane, 2002 Maryland Chemist

Dr. Ramachandra S. Hosmane, presidential research professor, University of Maryland, Baltimore County (UMBC), received his B.S. and M.S. degrees in chemistry from Karnatak University, Dharwad, India. After that he migrated to the University of South Florida, from where he obtained M.S. (1976) and Ph.D. (1978) degrees in organic chemistry, under the supervision of Professor Stewart W. Schneller. After a three-year post-doctoral fellowship (1979-1982) with Professor Nelson J. Leonard at the University of Illinois, Urbana-Champaign (IL), he joined the faculty of UMBC in 1982 as an assistant professor of chemistry. As a reward for his productive research output, he was promoted to the position of associate professor of chemistry with tenure in 1986 and then to professor of chemistry in 1994. Dr. Hosmane has made innovative research contributions in the area of medicinal chemistry, especially as related to antiviral and anticancer properties of novel ring-expanded (“fat”) and ring-contracted (“slim”) analogues of natural nucleosides and nucleotides. In addition, he has made significant contributions to the synthesis of novel poly-functional organic reagents capable of cross-linking human hemoglobin as part of the research aimed at artificial blood for emergency transfusion. He has been a prolific researcher over the years, in that he has been associated with well over one hundred research papers and a half dozen patents and disclosures. He has also been the recipient of numerous research grants, awards, and honors.

ARL scientists visit local schools during National Chemistry Week

Dr. Sandra Young

National Chemistry Week Coordinator for the Maryland Section

Over a period of three days (October 22-24), a group of us from the U.S. Army Research Laboratory at Aberdeen Proving Grounds went out in honor of National Chemistry Week to five different locations in Harford and Baltimore Counties, and Baltimore City and worked with 417 students in the 3rd, 4th, 5th, and 6th grades. We talked to young students about being a scientist and worked with them to perform three different experiments.

Many thanks to those who volunteered their time to participate in making a difference in kids’ science education: Rob Lieb, James Sands, Eric Wetzel, Composites Branch; Matt Bratcher, Wendy Kosik Chaney, Pauline Smith, Jim Snyder, Sandra Young, Polymers Branch; Rose Pesce-Rodriguez, Propulsion Science Branch; Jane Adams, Metals & Ceramics Branch.

Some of the students’ comments were “You guys aren’t going to leave now, are you? When are you coming back?”; “Please come back soon and teach us more about being a scientist”; “I know all there is about being a scientist”; and “Are you coming back tomorrow?”

Here is a list of the schools and locations visited: Moravia Park Primary, the Edgewood Branch of the Harford County Public Library, Halls Cross Roads Elementary School, the Hamilton Branch of the Enoch Pratt Library, and Parkville Middle School.



November Historical Events in Chemistry

by Leopold May, The Catholic University of America

- November 1, 1917 Union Carbide was incorporated as Union Carbide and Carbon Corporation on this day.
- November 4, 1903 Birthday of Boris A. Arbuzov, who discovered the formation of the free radicals of triarylmethane derivatives. He also investigated the properties of terpenes and phosphorous containing heterocyclics.
- November 6, 1857 This is the birthday of William A. Noyes, who was the first chief chemist of the US Bureau of Standards (now the National Institute of Standards and Testing). He served as editor of the *Journal of the American Chemical Society* from 1902 to 1917.
- November 9, 1897 Birthday of Ronald G. W. Norrish, a researcher in extremely fast chemical reactions. He shared the Nobel Prize in 1967 with Nikolai N. Semenov “*for their studies of extremely fast chemical reactions, effected by disturbing the equilibrium by means of very short pulses of energy.*”
- November 11, 1945 Glenn T. Seaborg announced the discovery of americium and curium on the Quiz Kids radio program on this day.
- November 12, 1947 On this day, EG&G Idaho was incorporated as Ederton, Gernhausen and Grier.
- November 15, 1810 Humphry Davy announced the elementary nature of chlorine to the Royal Society in London on this date.
- November 17, 1850 George T. Beilby was born on this date. He invented the process for retorting shale, synthesized alkaline cyanides, and constructed the first factory for the synthesis of cyanides.
- November 20, 1602 Birthday of Otto von Guericke, who invented the water barometer, air pump, manometer, and sulfur electrostatic machine. He also performed the Magdeburg hemisphere experiment.
- November 25, 1960 First atomic reactor for research and development began operation at Richland, Washington, on this date.
- November 26, 1801 Charles Hatchett announced his discovery of columbium (niobium) before the Royal Society on this date.
- November 30, 1761 Birthday of Smithson Tennant, the discoverer of iridium and osmium in 1803. He proved that diamonds are pure carbon.

Maryland Chemist Award Day proclaimed

By proclamation of the governor of the state of Maryland, Parris N. Glendening, Wednesday, December 11, 2002, has been declared Maryland Chemist Award Day.

December Historical Events in Chemistry

by Leopold May, The Catholic University of America

- December 2, 1942 First atomic pile produced a first self-sustained nuclear chain reaction under Stagg Field, University of Chicago on this date.
- December 6, 1778 Birthday of Joseph L. Gay-Lussac. Two hundred years ago, he discovered the law of expansion of gases with heat. He also discovered the law of combining volumes of gases in 1809 and isolated boron. He was also a researcher on fermentation, prussic acid and the composition of water.
- December 10, 1801 Robert Hare, Jr., on this day, informed the Chemical Society of Philadelphia of his discovery of the oxy-hydrogen blowpipe, which he called a “hydrostatic blowpipe.”
- December 14, 1900 On this date, Max Planck announced his formula for the blackbody spectrum, the beginning of the quantum revolution.
- December 16, 1776 Birthday of Johann W. Ritter, who discovered ultra-violet rays 200 years ago. Two years before this, he collected oxygen and hydrogen by electrolysis.
- December 17, 1938 This is the day that the neutron-induced nuclear fission of uranium was discovered by Otto Hahn and Fritz Strassmann in Berlin.
- December 21, 1805 Birthday of Thomas Graham, the discoverer of the laws of diffusion (Graham’s Laws). He was also a researcher on the absorption of gases, osmosis, colloids, and dialysis.
- December 22, 1903 Birthday of Haldan K. Hartline, who performed single-fiber analysis of the optic responses of the vertebrate retina. He shared the Nobel Prize in physiology or medicine in 1976 with G. Wald and R. Granit, for their discoveries concerning the primary physiological and chemical visual processes in the eye.
- December 24, 1745 Birthday of Benjamin Rush, who published the first American chemistry textbook and signed the *Declaration of Independence* in 1776.
- December 26, 1838 Birthday of Clemens A. Winkler, who in 1868 discovered germanium and did analyses of gases.
- December 31, 1921 Gilbert Stork, who was born on this day, does research in alkylation, acylation, and vinyl ring radical cyclization. He also developed the theory of concerted polyene cyclization.

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**Happy Holidays
from the
Maryland Section
of the ACS**



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