

# Chesapeake Chemist

*Maryland Section  
American Chemical  
Society*



## **Maryland Chemist Award**

Dr. Raymond A. Mackay  
Johns Hopkins University  
Wednesday, December 12

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

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## Nominations Solicited

The Maryland Chemist Award Committee is inviting nominations and recommendations for the 2002 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 contribution of the nominee to scientific research, education, industry, technology, etc., will be helpful and appreciated. Nominations may be sent to S. Munavalli, 700 Paige Circle, Bel Air, MD 21014. The deadline for submitting nominations is April 15, 2002.

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**Electronic Chesapeake Chemist:** *If you would like to receive an electronic copy of the newsletter as a PDF file please email the editor.*

**Chesapeake Chemist on the web:**  
[www.towson.edu/~sshah](http://www.towson.edu/~sshah).



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**Maryland Section of the American Chemical Society  
Maryland Chemist Award 2001**

**is presented to**

**Raymond A. Mackay**

In appreciation of his outstanding research contributions to the field of the chemistry of colloid and surface science and in recognition of his highly creative and dynamic leadership, for providing new direction and thrust to the chemistry of the supramolecules and furthermore in acknowledgement of his being a prolific publisher, enthusiastic educator and scholar, as well as an insightful colleague.

Awarded this 12<sup>th</sup> day of December 2001 with the admiration, appreciation, and esteem of his fellow professionals.

**Abstract**

Blends of nanosized particles in polymer matrices are of considerable interest in order to modify material properties (e.g., thermal or electrical conductivity) or for device applications. Standard procedures involve synthesis of the nanoparticles, harvesting and then redispersing them in a polymer melt or monomer, followed by solidification or polymerization. All of these steps must be carried out without particle agglomeration. This presentation describes a 'one-pot' procedure that produces dispersed nanoparticles in a transparent polymer matrix suitable for optical application. The presentation will also include the discussion of research topics of current interest to the country's chemical-biological defense, with a particular focus on decontamination, detection and protection.

**Biographical Note:** Dr. Raymond A. Mackay, director, Research and Technology Directorate, Edgewood Chemical Biological Center, (ECBC), Aberdeen Proving Ground, Maryland, is the recipient of the Maryland Chemist Award for 2001. He is internationally known for his creative and scholarly research in the area of colloid and surface science and technology. Recently, he provided a new direction and thrust to the chemistry of the supramolecules. Dr. Mackay has accumulated an impressive record as a dynamic administrator and academician, and distinguished himself in various professional positions: program director, National Science Foundation; director, Center for Advanced Materials Processing; chief, Detection Technology Division, ECBC and professor of Chemical Engineering. He is associated with over 150 research publications and has been the recipient of numerous honors and awards. For a long time, he has been actively involved in Sigma Xi and the Colloid and Surface Chemistry Division of the American Chemical Society (ACS). He was also chairman of the I Colloid and Surface Chemistry Division, ACS. In addition, Dr. Mackay has served as the associate editor of Journal of the American Oil Chemists Society and a member of the Board of Advisers of the Journal of Colloid and Surface Science, Journal of Dispersion Science and Technology and New Current Opinion in Colloid and Interface Science.

**Governor Parris Glendening has issued a proclamation  
declaring December 12, 2001, Maryland Chemist Day**



## December Meeting



Wednesday, December 12, 2001  
Johns Hopkins University

### Schedule

6:00-6:45 pm	Registration & Social Reception (Glass Pavilion) Wine, Beer, Sodas Dip with French Bread Rounds, Cheese and Crackers Vegetable Crudite
6:45 - 7:45 pm	Dinner: Salad with Roasted Corn, Creamy Dill Dressing and Home-style Croutons; London Broil with Wild Mushrooms and Bordelaise Sauce; Vegetable Medley, Parmesan Potatoes, Rolls and Butter; Chocolate Raspberry Cake
8:00 pm	Keynote: Nanoparticle/Polymer Composites and DoD Chemical Biological Defense Needs Dr. Raymond A. Mackay Director, Research and Technology Directorate Edgewood Chemical Biological Center Aberdeen Proving Ground, MD

Cost: Members, \$25.00; Retired members, nonmembers, and spouses, \$20.00; Students, \$12.00

For reservations, call Shirish Shah, 410-532-5712, or e-mail him at [sshah@ndm.edu](mailto:sshah@ndm.edu).

### Directions to Johns Hopkins University

**From I-95 (southbound) or from I-695 (the Baltimore Beltway):** Take the beltway toward Towson to exit 25. Take Charles Street south for about 7 miles (when Charles Street splits a block after Loyola College and Cold Spring Lane, take the right fork). As you approach the university and cross University Parkway, continue southbound but be sure to jog right onto the service road. After you pass the university on the right, turn right onto Art Museum Drive. Just after the Baltimore Museum of Art, bear right at the traffic island onto Wyman Park Drive. Take an almost immediate right through the university gates. A visitors' lot and parking meters will be on the left.

**From I-95 (northbound):** Take exit 53 onto I-395 north toward downtown Baltimore, then take the exit to Martin Luther King Jr. Boulevard and follow the directions from Martin Luther King Junior Boulevard below.

**From Maryland 295 (the Baltimore-Washington Parkway):** Entering Baltimore, the parkway becomes Russell Street. Stay on Russell Street until (Ravens stadium is on your right and Oriole Park at Camden Yards is before you) you reach the right-hand exit marked Martin Luther King Jr. Boulevard (look carefully for this; the signs are small). This exit will put you very briefly on a service road parallel to Russell Street. Stay to the left and take the ramp marked Martin Luther King Jr. Boulevard. Follow the directions (below) from Martin Luther King Jr. Boulevard.

**From Martin Luther King Jr. Boulevard:** Take King Boulevard north until it ends at Howard Street (remain in one of the middle lanes of King Boulevard to avoid a premature forced right or left turn). Turn left at Howard Street and proceed about 2 miles. One block past 29th Street, turn left at the traffic island (just before the Baltimore Museum of Art) onto Wyman Park Drive. Take an almost immediate right through the university gates. A visitors' lot and parking meters will be on the left.

**From the Jones Falls Expressway (I-83) southbound:** Take the 28th Street exit and go left on 28th Street. Turn left on North Howard Street. One block past 29th Street, turn left at the traffic island (just before the Baltimore Museum of Art) onto Wyman Park Drive. Take an almost immediate right through the university gates. A visitors' lot and parking meters will be on the left.

**A map of the JHU campus showing parking and the location of the Glass Pavilion can be found at [www.jhu.edu/~tour/parking.html](http://www.jhu.edu/~tour/parking.html)**

## December Historical Events in Chemistry

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

- December 1, 1909      The first production of calcium cyanamide was made in North America at the American Cyanamide Co., on this day.
- December 2, 1921      Birthdate of Isabella L. Karle, who does research on the three-dimensional structure of molecules using x-ray and electron diffraction.
- December 3, 1900      Birthdate of Richard Kuhn, who was a researcher on the structures and syntheses of vitamins and carotenoids. He was awarded the Nobel Prize in 1938 "for his work on carotenoids and vitamins." He refused the Prize in 1938 due to Nazi rules but received the diploma and the medal in 1949.
- December 7, 1810      This the birthday of Theodor Schwann, who named and investigated pepsin in 1836. He also coined the word *metabolism*.
- December 9, 1742      Birthdate of Karl W. Scheele, who discovered chlorine in 1774, phosphorus from bone ash, and the action of light on silver salts. He also synthesized organic acids.
- December 12, 1775      Birthdate of William Henry, who discovered that the amount of gas absorbed by a liquid is proportional to the gas pressure (Henry's Law).
- December 15, 1863      A. D. Little, Inc., a firm for industrial research and control, was founded on this day.
- December 18, 1890      Birthdate of Mary L. Caldwell, who isolated enzymes for individual analyses.
- December 23, 1722      Axel F. Cronstedt, who was born on this day, discovered nickel in 1751 and zeolites. He also made a classification of minerals.
- December 25, 1642      Birthdate of Sir Isaac Newton, an alchemist as well as a mathematician and physicist; he discovered the laws of gravity and nature of light.
- December 28, 1932      Birthdate of Kary B. Mullis, who invented the polymerase chain reaction method for duplicating DNA. He received the Nobel Prize in 1993 "for his invention of the polymerase chain reaction (PCR) method," which he shared with Michael Smith.

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## Upcoming meetings and events for the Maryland Section

February 21, 2002, at Villa Julie College. In case of inclement weather the meeting will be held on March 7 at the College of Notre Dame of Maryland.

February 28, 2002, at Knotts Science Center, College of Notre Dame of Maryland, there will be a Job Fair from 11:00 am until 2:00 pm.

April 18, 2002, at Western Maryland College.

May 28, 2002, at Johns Hopkins University, Remsen Award.

# National Chemistry Week Events Report

Shirish Shah (NCW Coordinator for the Maryland Section)

Date	Event	Attendance
10/20/01	Kids and Chemistry Workshop at CND	18
10/30/01	Hands-on Fun Activities for the Students at CND	35
11/01/01	Chemistry Magic Show at Towson University	62
11/01/01	“Human Genome Project” at Towson University	225
11/06/06	Kids and Chemistry at Lutherville Elementary	44
11/06/01	“Chemistry of Dyes” at Loyola College	40(est.)
11/07/01	“Science of the Arts” at CND	60(est.)
11/08/01	“The Science of Art Conservation” at Loyola College	60(est.)
11/08/01	“Science of the Arts” at CND	30(est.)
11/08/01	Posters, Discussion and Hands-on Activities of Making Paint, and Clay/playdough at Bel Air Middle School	80(est.)
11/09/01	“Chemistry and Photography” at Loyola College	30(est.)

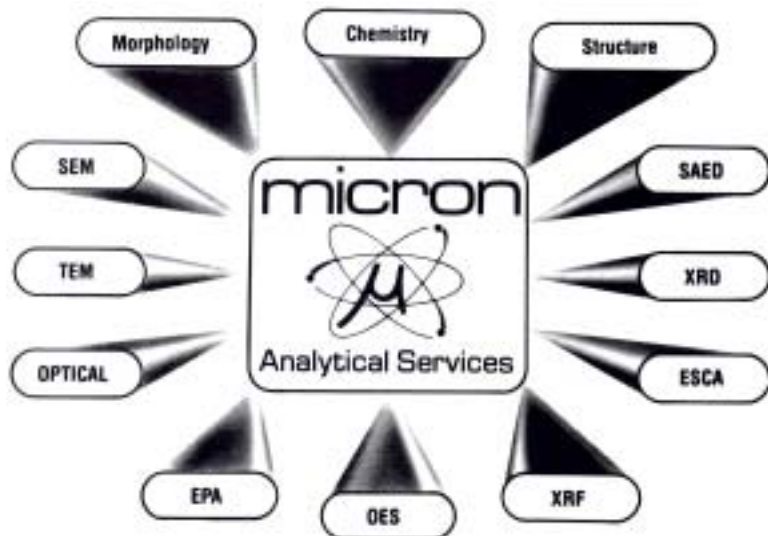
My sincere thanks to the participants and volunteers and to the performers for the wonderful National Chemistry Week celebrations in Maryland. We saw more students and faculty of many colleges, elementary and middle school kids, their teachers and parents and scientists from industry. Support from the National ACS was also excellent.



*Dr. Shah at the Workshop for Kids and Chemistry at College of Notre Dame, October 20<sup>th</sup>.*

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