



THE

# CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. LIII

OCTOBER, 1997

NUMBER 7

**University of Maryland Baltimore County  
Department of Chemistry and Biochemistry  
and  
Howard Hughes Medical Institute  
Fall 1997 Seminar Schedule**

October 14	Dr. Danial D.M. Wayner "Organic Chemistry in Flatland. Covalent Modification of Semiconductor Surfaces"	Steacie Institute for Molecular Sciences National Research Council of Canada
October 22*	Dr. Kendall Houk "Theoretical Studies of Host-Guest Chemistry"	Department of Chemistry and Biochemistry University of California at Los Angeles
October 28	Dr. Ann Stock TBA	HHMI Department of Biochemistry R.W. Johnson Medical School
November 4	Dr. James Williamson "RNA Folding and Recognition"	Department of Chemistry Massachusetts Institute of Technology
November 18	Dr. David K. Geiger "New Tricks from an Old Ligand - Phenanthrolines with Tethers"	Department of Chemistry SUNY - College at Geneseo
November 25	Dr. Bradley Smith "Molecular and Anion Recognition Using Organoboron Receptors"	Department of Chemistry and Biochemistry University of Notre Dame

Seminars to be held at 3:30 p.m. in Biological Sciences Rm 403 (refreshments at 3:15 p.m.). For information contact Dr. Lisa Kelly (410)455-2507 or Dr. Bradley Arnold (410)455-2503.

\*NOTE: Wednesday seminar, time and place to be announced.

# The State of Maryland



## Proclamation

From the Governor of the State of Maryland

**CHEMISTRY WEEK**  
**NOVEMBER 2 - 8, 1997**

**WHEREAS,** *The science of chemistry gives us the power to understand and to use the elemental building blocks of all material things; and*

**WHEREAS,** *The science of chemistry provides the fundamental understanding required to deal with many of society's needs, including several that determine our quality of life and our economic strength; and*

**WHEREAS,** *Chemists and chemical engineers use their powerful science in helping feed the world's population, tapping new energy sources, clothing and housing humanity, providing renewable substitutes for dwindling or scarce materials, improving health and conquering disease, strengthening our national security and monitoring and protecting our environment; and*

**WHEREAS,** *Maryland joins with the American Chemical Society in recognizing the important role that chemistry plays in our day to day lives.*

**NOW, THEREFORE, I, PARRIS N. GLENDENING, GOVERNOR OF THE STATE OF MARYLAND, do hereby proclaim November 2-8, 1997 as CHEMISTRY WEEK in Maryland, and do commend this observance to all of our citizens.**

*Given Under My Hand and the Great Seal of the State of Maryland  
this 2nd day of November  
One Thousand Nine Hundred and Ninety-seven*

*Parris N. Glending*  
Governor

*John J. Wallis*  
Secretary of State



# THE CHESAPEAKE CHEMIST

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### COMMITTEE CHAIRS

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Maryland Chemist Award....Elwin Penski  
2515 Jerusalem Road  
Joppa, MD 21085 (410/877-2923)

Maryland Service Award...Shree Iyengar

Student Awards.....Carl Minnier  
Essex Community College  
7201 Rossville Blvd.  
Baltimore, MD 21237 (410/780-6613)

Education.....Shirish Shah  
Science Fairs.....Mike Zapf  
Chemistry Olympiad.....Mike Zapf  
Shirish Shah

National Chemistry Week.....  
Mark Greenberg (410/830-3055)  
Victoria Kuntz (410/750-7978)  
Chemistry and Kids..Anna Kraut-Vass  
Shirish Shah, Bernadette Patriarca  
(410/486-2830)

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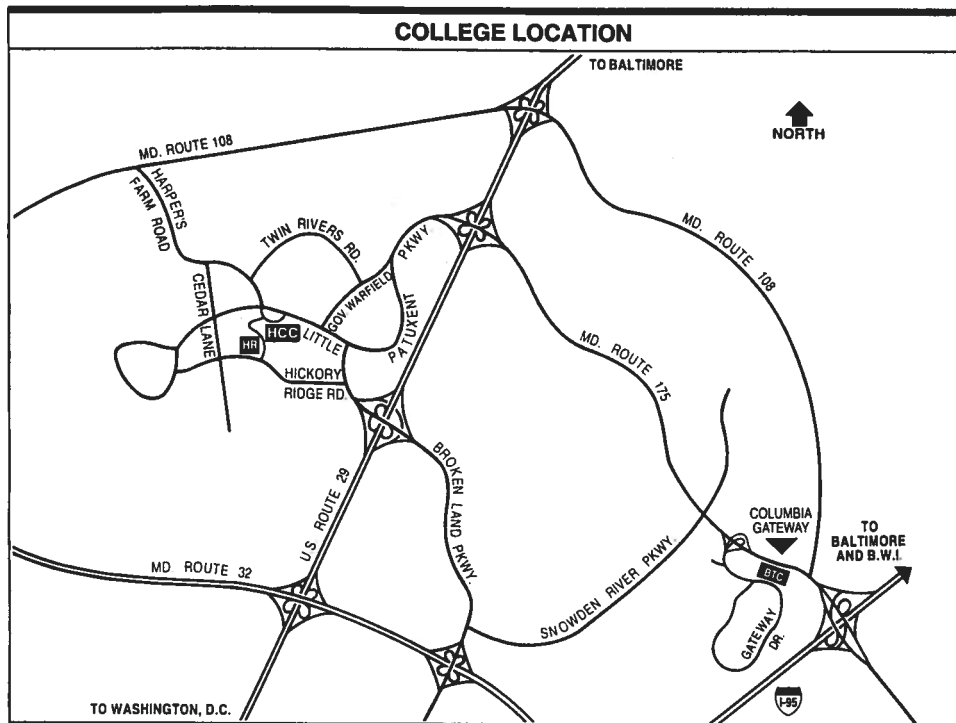
Government Relations.....Shirish Shah

Retired Chemists.....Alvin Bober

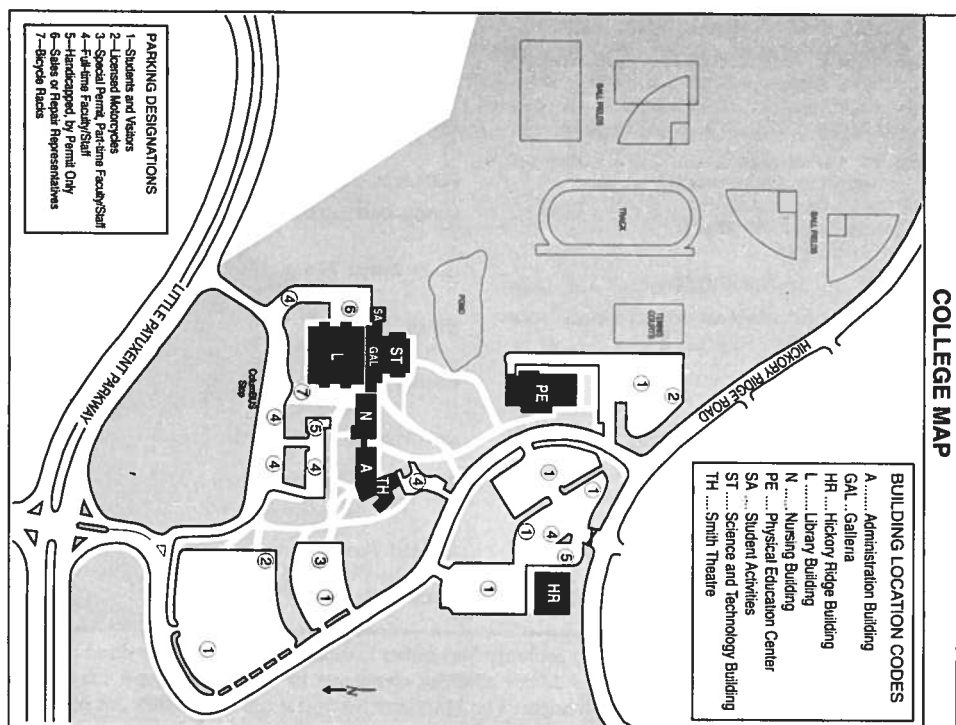
### MEMBERS-AT-LARGE

Donald Hoster Catherine Fenselau  
Dale L. Whalen Asoka Katumuluwa  
Harold D. Banks

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to the Editor. Send advertising copy and inquiries to the Business Manager. The Maryland Section is not responsible for opinions expressed herein. Editorials express the opinions only of their authors. The Editor is responsible for all unsigned material.



## HOWARD COMMUNITY COLLEGE



## OCTOBER MEETING

This meeting is jointly sponsored with the Society for Applied Spectroscopy, Baltimore-Washington Section, Dr. Emil Ciurzak, Chairman.

**DATE:**

Tuesday, October 28, 1997

Dinner reservations may be made by mailing checks, payable to Maryland Section of ACS, to

**PLACE:**

Nursing Building, Room 116  
Howard Community College  
Columbia, Maryland

Dr. Shirish Shah  
College of Notre Dame  
4701 North Charles Street  
Baltimore, MD 21210

**SCHEDULE:**

6 pm Social Hour

by October 21. Late reservations may be made by calling

(410) 532-5712

7 pm Dinner

by October 23. An answering machine is available at this number.

8 pm Michael Jules Natan  
Pennsylvania State University  
"Fundamentals and Applications of Au Colloid Self Assembly: Surface Engineering on the Nanometer Scale"

Dinner price is \$18.00 per person, but spouses and retired chemists may attend for \$16.00; students may attend for \$9.00.

It is not necessary to be a member of either society to attend. You may attend the lecture without attending the dinner.

### MICHAEL JULES NATAN

Michael Natan received a B.S. in chemistry from Yale University and a Ph.D. in inorganic chemistry in 1986 from M.I.T. where he worked with Professor Mark Wrighton. He held post-doctoral fellowships at Northwestern University from 1986-1991. In 1991 he joined the faculty of Pennsylvania State University and in 1997 he became an associate professor.

He has received a Beckman Young Investigator Award and has held an N.I.H. Post-doctoral Fellowship. He currently has a Sloan Research Fellowship. His memberships include Sigma Xi, AAAS, The Electrochemical Society and ACS, where he has served as a member of the Younger Chemists Committee.

Dr. Natan's research interests encompass electrochemistry, colloid and surface chemistry, inorganic, bioinorganic, analytical and environmental chemistry, biosensors, Raman spectroscopy and chemistry at the nanometer scale.

### FUNDAMENTALS AND APPLICATIONS OF AU COLLOID SELF ASSEMBLY: SURFACE ENGINEERING ON THE NANOMETER SCALE

Many physical properties of noble metal surfaces depend on nanometer-scale surface roughness, including surface enhanced Raman scattering, reflectivity and resistance. The focus of our research has been to assemble spherical metal nanoparticles into macroscopic arrays, with a goal of controlling surface architecture. This talk will focus on three aspects of this work. The first is on methods of nanostructure fabrication. The second is on nanostructure characterization, which turns out to be a non-trivial problem, even when the sizes and shapes of the particulate building blocks are known. The final portion of this talk will deal with protein-coated Au nanoparticles and their use in novel biosensor applications.

## The Maryland Section of the American Chemical Society

in cooperation with the

### College of Notre Dame of Maryland's Career Center and Science Department

will sponsor a...

## SCIENCE CAREER/INTERNSHIP AND GRADUATE SCHOOL INFORMATION FAIR

When: Tuesday, October 21, 1997

Time: 12:30 - 2:30 p.m.

Where: College of Notre Dame Campus (Doyle Formal)

#### GRADUATE SCHOOLS

Johns Hopkins University  
Morgan State University  
University of Delaware  
UMBC  
UMAB

#### EMPLOYERS

Becton Dickinson Microbiology Systems  
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U. S. Army Medical Res. Inst. of Chem. Defense

For further information contact:

College of Notre Dame of Maryland, Career Center, Lucy Wase - Director (410) 532-5387  
College of Notre Dame of Maryland, Chemistry Department, Dr. Shirish Shah (410) 532-5712

#### NATIONAL CHEMISTRY WEEK

National Chemistry Week celebrates its 10th anniversary in 1997. The NCW is scheduled from November 2-9. We have activities planned, including Chemical Bonding, distribution of hard water testing kits, and Kids and Chemistry activities at several locations, such as bookstores, elementary schools, libraries, malls and the Columbus Center. The volunteer training workshop is planned for October 18. Since new activities are planned, it will be good if last year's volunteers will also participate. On October 21 a Career Science Fair will be held at the College of Notre Dame. The Chair suggests that we celebrate the anniversary from October 18 to November 18. For additional information, or if you need help with any of your own activities, please contact one of the individuals listed below. Also, it would be good if you would send reports, pictures, etc., of your activities. We could include them in an NCW report.

Victoria Kuntz (410) 750-7978  
Mark Greenberg (410) 830-3055

Shirish Shah (410) 532-5712  
Mike Zapf (410) 771-7471

#### TO THE MEMBERS FROM THE CHAIR

As I finish my term at the end of this year, I must acknowledge the work of several individuals, as well as highlight some of our activities. Part of the annual report which must be prepared at the end of each year includes a section for the evaluation of these activities.

This year Elwin Penski (Audit), Shekar Munavalli (Long Range Plan), Victoria Kuntz and Anna Kraut (Kids and Chemistry), Elwin Penski and Alvin Bober (Retired Chemists Luncheon), Victoria Kuntz and Mark Greenberg (National Chemistry Week), Mike Zapf (Olympiad, SEED, Science Fairs), Linh Cheong, Shirish Shah and Lucy Wase (Career Science Fair) and Laurence Boucher (MARM) have provided outstanding leadership for our organization. I must also acknowledge the work of our awards committees chaired by Bill White (Remsen Award), Elwin Penski (Maryland Chemist Award) and Carl Minnier (Student Awards).

The Councilors have provided good advice and The Chesapeake Chemist has provided a reliable communication vehicle for the Section. The officers and Ray Petersen have worked as a team to make sure that the monthly meeting announcements, as well as other communications, have been distributed in a timely manner. Kathleen Thompson has provided a good challenge for our Section to become more inclusive and to provide support for related groups. I also note with pleasure that our use of e-mail has increased.

This year two students from high schools within the Maryland Section were selected as national finalists for the Chemistry Olympiad. Our Section also received recognition at the national level in three categories: National Chemistry Week, Local Section Activities and Public Relations. We also must acknowledge financial and/or in-kind support from FMC Corp., McCormick & Co., Becton-Dickinson, Sage, Inc., Notre Dame and Coppin Colleges, Towson and Morgan Universities and a real estate firm in support of Kids and Chemistry.

I will list some activities, carried out in 1997, and request that you rate them on a value scale of 1 (best) to 5 (least).

National Chemistry Week	___	The Chesapeake Chemist	___
Retired Chemists Luncheon	___	Career Science Fair	___
Project SEED (Student Support)	___	Chemistry for Kids	___
Monthly Dinner/Lecture Meetings	___	Chemistry Olympiad	___
Science Fairs (Towson and Morgan)	___	Chemical Bonding	___
Awards (Remsen and Maryland Chemist)	___	Student Awards	___
Others	___		

As we plan for 1998, the information you provide will be very helpful. Your written comments are welcome for new activities or for activities we may be neglecting. I thank you for your support and look forward to your feedback. You may reach me by phone at (410) 532-5712 or e-mail at sshah4@juno.com.

I have enjoyed my responsibilities, meeting many people, and I realize that the success of any organization depends upon the participation of the members in its activities.

Sincerely,

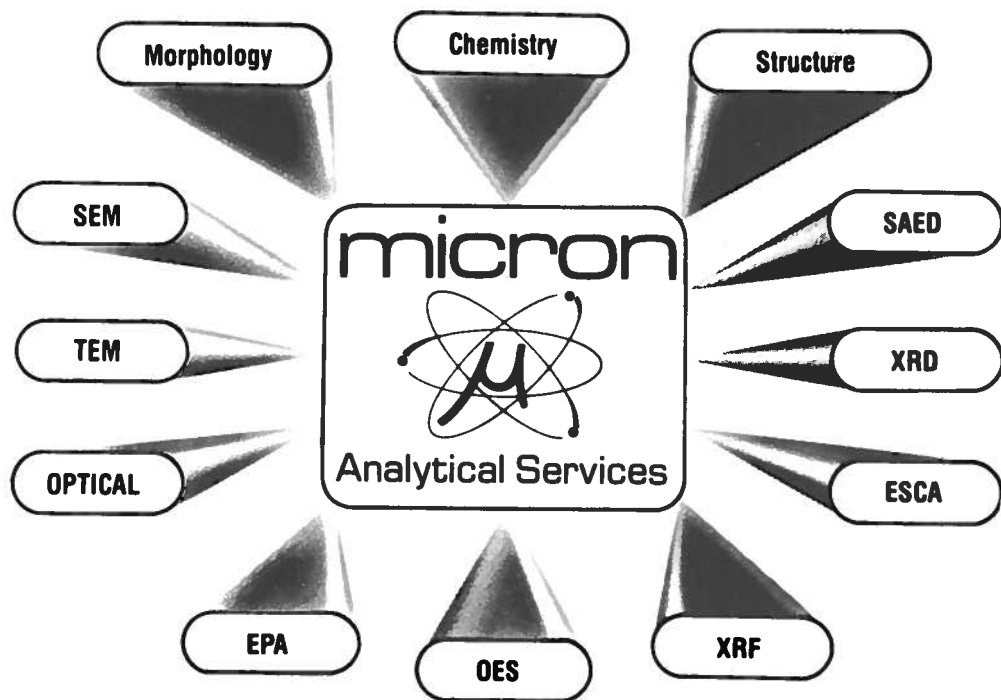
Shirish K. Shah

It is not necessary to notify *The Chesapeake Chemist* of address changes. We get our mailing labels from the ACS each month, so if you inform the ACS of your address change, we will automatically receive the correct label.

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#### NEWS BITS FROM THE CHAIR

Dr. J. Tyson Tildon, Associate Dean of Research for Graduate Studies at UMAB, has been appointed to chair the newly constituted Board of Education of Baltimore City. He is a 39-year member of ACS.

Dr. John Conklin was heard on WBAL on July 2 discussing safety with pyrotechnics. He is a member of Maryland Section, a chemistry professor at Washington College and president of the Pyrotechnics Association. The interview lasted nearly twenty-five minutes at about midnight.

Dr. Victoria Kuntz and Dr. Anna Kraut were busy with a four week summer camp for Kids and Chemistry. They reported nearly thirty-five kids daily.

Please contact Dr. Shirish Shah with stories about local members.