



THE

# CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XLIII

NOVEMBER, 1987

NUMBER 9



SUZANNE QUILLEN LOMAX

## THE EDITOR NOTES

National Chemistry Day was scheduled for November 6, 1987. Our local program for this day was detailed last month. If you receive this issue early enough you might be reminded to participate.

The conferring of the Maryland Section's Distinguished Service Award was also scheduled for this date. The 1987 recipient is Merle Eiss. Merle has served the Section for years in a variety of capacities, including those of councilor and chairman.

Last month we suggested that Maryland Section was outnumbered by our CSW counterparts at our joint picnic. Hope Bober informs us that the two ACS sections were equally represented.

Please note on page 3 that Bill White has a new address and telephone number and that Kris Kirk's telephone number has changed.

Dr. Gary Carriveau, originally scheduled to be our November speaker, is unable to keep that commitment. Dr. Suzanne Quillen Lomax, a chemist at the National Gallery of Art, will speak on a similar topic.

## DIAMOND JUBILEE

Planning has begun for the Diamond Jubilee of the Maryland Section. The celebration is scheduled for early fall of 1989. Be reminded that Archivist Ernie Silversmith has requested articles and artifacts of relevance to this anniversary. Ernie is also looking for some back numbers of this publication. At last look March of 1981 and April, September and October of 1978 were still missing.

## THE GUSTAVUS JOHN ESSELEN AWARD

The Gustavus John Esselen Award for Chemistry in the Public Interest was established by the Northeastern Section of the American Chemical Society in 1985. The goal of this award is to perpetuate Dr. Esselen's belief that chemistry is an honorable profession which contributes to the public good. The award will annually recognize a chemist whose scientific and technical work has contributed to the public well-being, and has thereby communicated positive values of the chemical profession. The significance of this work shall have become apparent within the five years preceding nomination, and the Awardee shall be a living resident of the United States or Canada at the time of nomination.

The prize will be a bronze medal and a check for \$5,000. Travel expenses incidental to the conferring of this award will be reimbursed. The award will usually be given at the April meeting of the Northeastern Section. The Awardee will deliver an address on the subject of the work for which he or she is honored or for work in progress which is also directed to improving the public well-being.

The person who nominates a candidate is requested to provide seven copies of 1) a biography of the candidate, 2) a description of the work which has been recognized within the last five years as contributing to the public good (please include pertinent technical papers and news articles), and the names of three co-sponsors. This information should be sent to Dr. Myron S. Simon, Chairman, Esselen Award Committee, c/o Research Division, Polaroid Corporation, 730 Main Street (730M-5A), Cambridge, MA 02139, and should be post-marked no later than December 1, 1987.



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## SUZANNE QUILLEN LOMAX

Suzanne Quillen Lomax received her Ph.D in Organic Chemistry in 1984 from the University of Maryland, working with Patrick Mariano exploring the photochemistry of iminium salts. She then went to Northwestern University, where she performed postdoctoral research with Frederick Lewis, examining intermolecular photoaddition reactions. Before beginning her work at the National Gallery, Dr. Lomax worked in the Office of Toxic Substances of the EPA. She has been at the National Gallery Science Department since February, 1986, investigating the identification and aging behavior of artists' materials.

### THE APPLICATION OF CHEMISTRY TO THE EXAMINATION OF WORKS OF ART

Scientists have been associated with museum conservation laboratories for many years. Only recently, however, have art curators and conservators begun to appreciate the contributions that scientists can make in the preservation and restoration of art objects. At present, about a dozen museums in the United States have conservation science departments, employing approximately fifty conservation scientists.

Art conservators frequently require specific information about the component materials of a painting or object prior to treatment. Due to their complex stratification, most questions which arise concern the nature of the components of paintings. Microscopic cross sections of a painting are frequently taken and viewed with a polarizing microscope to understand the different layers that make up the object. Pigment identification is frequently employed to determine if the pigments are in keeping with the time period of the object, as well as to understand the artists' materials and methods. They are performed using polarized light microscopy and x-ray diffraction of powdered samples, or x-ray fluorescence, which is well suited to this task due to its non-invasive nature.

To study the identity of binding media, the conservation scientist uses GC, HPLC, and infrared spectroscopy. Ultraviolet radiation can be used to examine the varnish layer of a painting as well as to identify areas retouched in previous conservation treatments. Infrared reflectography is frequently used to examine underdrawing on a painting. In addition, x-rays are often used to determine where lead white has been used on a painting, as well as to reveal damaged areas beneath the paintings' surface.

The talk will focus on the application of these various techniques to the examination of paintings and sculpture. Examples will be presented from the National Gallery collection.

### CHANGES OF ADDRESS

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

### TWENTY-SECOND MARM

The 22nd Middle Atlantic Regional Meeting will be held in Millersville, Pennsylvania May 24-26, 1988. The meeting will include a large number of symposia as well as general sessions.

Abstracts of papers, on ACS forms, should be submitted to the Program Chairs by February 1, 1988. Program Co-chairs are Dr. Lindy Harrison and Dr. Keith Peterman of the Physical Sciences Department, York College of Pennsylvania, York, PA 17403-3426.

## NOVEMBER MEETING

### Date and Place:

Wednesday, November 18, 1987  
Officers' Club  
Edgewood Area  
Aberdeen Proving Ground  
(NOT the Aberdeen Area)

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

John Corliss  
P.O. Box 20899  
Baltimore, MD 21209

### SCHEDULE:

6:00 Social Hour  
(Cash Bar)

7:00 Dinner

8:00 Suzanne Quillen Lomax  
National Gallery of Art  
'The Application of Chemistry to the Examination of Works of Art'

by November 12. Late reservations may be made by calling:

John Corliss at (301) 235-6612  
Nolan Phillips at (301) 939-3500  
Douglas Dudis at (301) 267-3302

by November 17.

Dinner price \$10.00 per person, but spouses, retired chemists and students may attend for \$8.00

It is not necessary to be a member of the American Chemical Society to attend.

Directions: Take I-95 north to exit 77. Take route 24 south to the Edgewood Area of Aberdeen Proving Ground. The guard will be expecting all who have made reservations. After being admitted by the guard, continue straight past a traffic light. The road will then be identified as Hoadley Road. Follow this to a stop sign, a chapel and Austin Road. Turn right on Austin Road. After a Children Warning sign bear left onto Parrish Road. The second right, Gunpowder Loop, will pass the front of the Officers' Club (Bldg. E-4650). Parking is in the rear.

### FUTURE MEETINGS

DATE AND LOCATION	SPEAKER AND AFFILIATION	SUBJECT
December 9, 1987 Johns Hopkins	Maryland Chemist Award Dr. Gary H. Posner	
February 3, 1988 College of Notre Dame	Dr. Rita R. Colwell University of Maryland  Early speaker not yet identified	Developments in Marine Biotechnology
March 16, 1988 Linthicum	Not yet identified	Maritime Institute of Technology
April College of Notre Dame	Dr. Alan McClellan E. I. DuPont	Chemical Careers in Industry
May Johns Hopkins	Remsen Award	

## THE JOHNS HOPKINS UNIVERSITY

### Chemistry Department Colloquium Schedule

Colloquia are held at 4:15 pm (unless otherwise noted) in Remsen Hall Room 221 on the Homewood Campus of The Johns Hopkins University. For information call Mrs. H. J. Potter at (301) 338-7421.

Day and Date	Speaker and Affiliation	Topic
Tuesday November 10, 1987	Giacinto Scoles Princeton University	Physical and Chemical Dynamics of Polar Molecules over Layers of Graphite
Tuesday November 17, 1987	George Schatz Northwestern University	State to State Chemistry: New Probes of Transition State Structure
Tuesday November 24, 1987 2:00 pm	Steven G. Boxer Stanford University	The Nature of the Initially Excited State in Photosynthesis
Tuesday November 24, 1987	Josef Paldus University of Waterloo	Coupled Cluster Approaches and Quasidegeneracy
Tuesday December 1, 1987	John H. Dawson University of South Carolina	The Activation of Molecular Oxygen by Cytochrome P-450 and Related Enzymes
Tuesday December 8, 1987	James M. Farrar University of Rochester	Gas Phase Ion Chemistry: Collisions and Clusters
Tuesday December 15, 1987	Marsha Lester University of Pennsylvania	Photofragmentation Dynamics of ICl-Rare Gas van der Waals Complexes

## HELPING THE PUBLIC UNDERSTAND CHEMISTRY

In an effort to help promote the public understanding of chemistry, ACS local section and division members are participating in volunteer chemical consulting programs. Several ACS local sections that have established these public information/consulting programs have found that there is a need for sound scientific answers to questions concerning the chemical sciences. Their programs have been successful because they provide a necessary public service to the local community. Through these programs, ACS local sections and members are helping to inform individuals within their community about science and the role that chemistry plays in enhancing the quality of their lives.

In Ohio, the Akron, Cleveland, Cincinnati, and Northeastern Ohio local sections, which make up the Public Affairs Coordinating Committee of Ohio Sections (PACCOS), recently have published the second edition of the "The Chemical Resource Consultants Handbook." The handbook contains names and resumes of Ohio local section members who have volunteered their services to provide local government, business, and the general public with factual information on selected chemical topics. The "consultants" are listed by topic in their area(s) of technical expertise.

The first edition of "The Chemical Resource Consultants Handbook" was published in 1982 by PACCOS. Communities have been so pleased with the service that this publication provides, that its success has stimulated

interest among the participating local sections' members. The interest by volunteer members is reflected by a 40 percent increase in the number of listings contained in the second edition of the Handbook. To obtain additional information about the Chemical Resource Consultants Handbook, you may contact: Dr. Jim Schwindeman, PACCOS Chairman, P.O. Box 31, Barberton, OH, 44203; (216) 848-4161.

The St. Louis local section has offered a similar service in "Answers To Chemical Questions: The St. Louis Guide" (published in 1984). Volunteer members are listed by issue area with information on their specific areas(s) of expertise. In addition, some individuals are designated as "Emergency Response" volunteers indicating that these members are willing to lend chemical expertise to assist local officials who are responding to a chemical emergency. The St. Louis Guide also offers a referral service through its "Information Brokers," who have lists of additional local section members, who prefer not to be listed in the Guide but are accessible to answer questions concerning the chemical sciences.

The St. Louis Guide has been distributed to the news media, libraries, universities, state representatives and science advisors, as well as interested individuals in the St. Louis area. According to Dr. David Garin, who serves as one of the information brokers, the project has been successful and has demonstrated a good faith effort by the scientific community to those individuals and organizations in the St. Louis area who have used the service. To obtain additional information about "Answers to Chemical Questions: The St. Louis Guide," please contact: Dr. David Garin, Department of Chemistry, University of Missouri, 8001 Natural Bridge Road, St. Louis, Missouri, 63121; (314) 553-4349.

The ACS Chicago local section is coordinating an effort among the Illinois local sections to develop and distribute a chemical consultants listing to state officials, organizations, and interested citizens. The Section's Public Affairs Committee is overseeing the project and anticipates that the list of approximately 500 names will be ready for distribution this summer (1987). If you would like additional information about the Illinois chemical consultants list, the contact is: Dr. Nora Liu, 1603 S. Highland Ave, Arlington Heights, IL, 60005; (312) 439-4312.

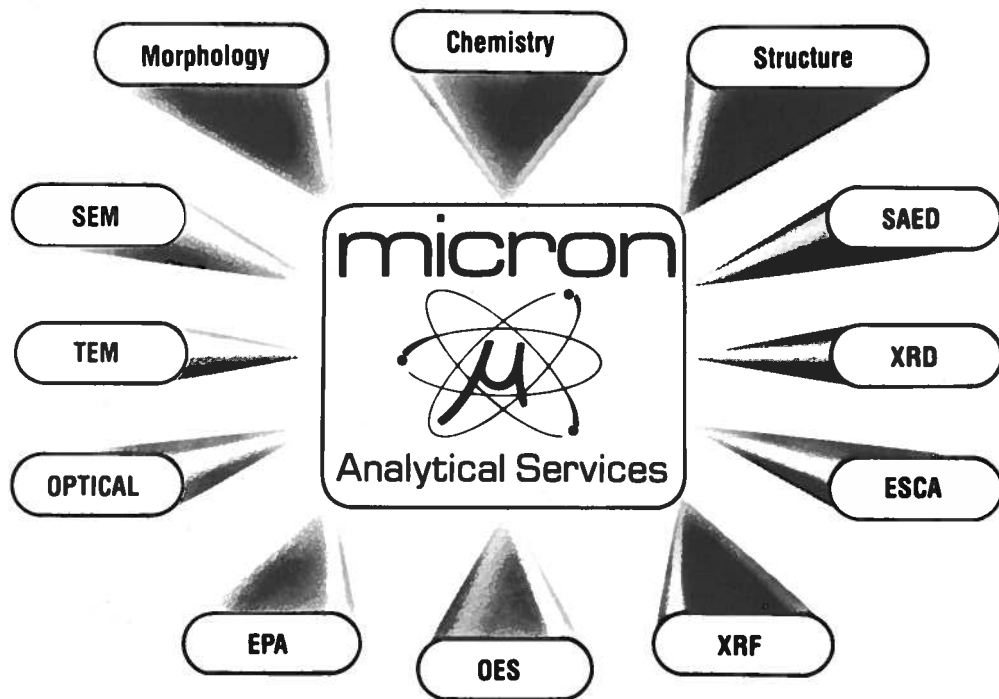
To complement these local section activities, the ACS Department of Government Relations and Science Policy (GRASP) has developed a computerized Experts Roster by surveying a majority of the ACS technical divisions. Included on the GRASP Experts Roster are approximately 7,000 ACS members from the technical divisions who have agreed to provide assistance in a variety of voluntary activities, such as peer review, public speaking, or individual consulting in their area(s) of chemical expertise. To obtain additional information about the Experts Roster, or if you need to identify a technical expert, you may contact: Ms. Kathleen A. Ream, Head, ACS Department of Government Relations and Science Policy, 1155 16th St., N.W., Washington, D.C., 20036; (202) 872-4477.

Another means of providing chemical information to your local community is through the use of the GRASP Information Pamphlet Series. The information Pamphlets, developed by GRASP and various ACS Committees, are written for the individual who has little or no scientific background. The pamphlets discuss environmental issues and highlight the role that the chemical sciences play in developing solutions and addressing problems surrounding these issues. Topics that have been addressed thus far include: "Acid Rain," "Ground Water," "Hazardous Waste Management," "Chemical Risk: A Primer," and "Biotechnology." Single copies of the Information Pamphlets are free and may be obtained by contacting the ACS Department of Government Relations and Science Policy, 1155 16th St., N.W., Washington, D.C., 20036 or by calling (202) 872-8725. When ordering by mail, please enclose a return address label.

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