



THE **CHESAPEAKE  
CHEMIST**

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

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NUMBER 8



LINDA M. SWEETING

THE GUSTAVUS JOHN ESSELEN AWARD  
FOR CHEMISTRY IN THE PUBLIC INTEREST

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 award is a memorial to Dr. Esselen, a former outstanding member of the Section, and was made possible by a major gift from the Esselen Family.

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 \$5000. 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 at a location in or near Cambridge, Massachusetts. At the award ceremony biographical notes on the life of Dr. Esselen and a description of the Awardee's life and accomplishments will be presented. The Awardee will deliver an address on the subject of the work for which the honor is being conferred, or for work in progress which is also directed to improving the public well being.

The Esselen Award Committee requests nominations of candidates for this award. 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. Truman S. Light, Chairman, Esselen Award Committee, c/o Northeastern Section, American Chemical Society, 19 Mill Road, Harvard, MA 01451, Telephone: (617) 456-8227, 1-800-872-2054 (MA only), and should be postmarked no later than December 1, 1988. The Committee will review the nominations and the award recipient will be notified by the first of February. The Committee reserves the right to declare that no candidate meets its standards, and that no award will be given.

NTIS ANNOUNCEMENT

The National Technical Information Center, an agency of the U.S. Department of Commerce, has announced the availability of a toxic chemicals data file on diskette for personal computers.

This data file lists 500 chemicals subject to reporting under the Emergency Planning and Community Right to Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986). The chemicals are sorted and identified by chronic toxicity. Explanations are given for the reporting requirements under the Act to which each chemical is subject. Information on the diskette-based version was previously published as *Title III List of Lists* by the EPA Office of Toxic Substances in January 1987.

The data file is contained on one 5-1/4 inch double-sided, double density diskette, compatible with the IBM-PC microcomputer. The diskette is in DBASE III Plus format.

TO ORDER: Request PB88-193255/KJY, *Chemicals Subject to Reporting Under The Emergency Planning and Community Right to Know Act*, January 1988 (for microcomputer), \$50, plus \$3 handling.  
FROM: NTIS, Springfield, VA 22161, (703) 487-4650.



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Dr. Linda M. Sweeting obtained a B.Sc. in Honours Physics and Chemistry and an M.A. in Chemistry from the University of Toronto. She earned the Ph.D. in chemistry as a result of her research in the areas of NMR and physical organic chemistry under the direction of Professor F. A. L. Anet at the University of California, Los Angeles. After a year on faculty at Occidental College, she came to Towson State University where she is now Professor of Organic Chemistry. She has enjoyed sabbaticals at both the National Institutes of Health and Harvard University and served, for one year, as Program Director for Chemical Instrumentation at the National Science Foundation. She presently serves as Mid-Atlantic Regional Director of Sigma Xi. She has received several grants in support of her ongoing research, currently centered on the investigation of the underlying mechanism of the phenomena of triboluminescence. She has published numerous scientific papers in a wide variety of journals in addition to several book reviews and essays in national scientific magazines.

#### TRIBOLUMINESCENCE: LIGHT FROM MECHANICAL ENERGY?

It has been recognized for hundreds of years that some solids, such as sucrose and quartz, emit light when they are fractured. For such non-photoluminescent materials, the light emitted is indistinguishable from lightning; the light in such cases must result from an electrical discharge through air. Since most of these materials are piezoelectric, the source of the charge is also understood. For solids which are photoluminescent, the correlation with piezoelectricity is poor and the light emitted is indistinguishable from the photoluminescence; some very bright samples will be used to demonstrate the phenomenon. Dr. Sweeting will discuss the history of triboluminescence and describe her crystallographic and spectroscopic probes into how the molecules in these solids are electronically excited upon fracture, including some surprisingly informative experiments on wintergreen candy.

#### FUTURE MEETINGS 1988-1989

DATE AND LOCATION	SPEAKER AND AFFILIATION	TOPIC
December , 1988 Johns Hopkins University	(Maryland Chemist Award To be announced)	
February 22, 1989 College of Notre Dame	Robert L. Caret Towson State University and John H. Nelson McCormick & Co., Inc.	Industrial - Academic Cooperation --Academic view Industrial - Academic Cooperation -- Industry view
March 29, 1989 University of Maryland, Baltimore County	Richard Smith Western Maryland College and (Second Speaker and Topic To be announced)	A New Class of Biological Alkylating Agents
April 19, 1989 Western Maryland College	(Student Award Night) Jay Tobin Maryland State Police Lab	Forensic Chemistry
May 17, 1989 Johns Hopkins University	(Remsen Award To be announced)	

## NOVEMBER MEETING

#### DATE & PLACE:

Wednesday, November 16, 1988  
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

Ms. Julia Pearson  
Nova Pharmaceutical Corp.  
6200 Freeport Center  
Baltimore, MD 21224

#### SCHEDULE:

6:00 Social Hour  
(Cash Bar)

by November 9. Late reservations  
may be made by calling

(301) 563-6183

7:00 Dinner

by November 11; answering machine  
is available.

8:00 LINDA M. SWEETING  
Towson State University  
"Triboluminescence: Light  
from Mechanical Energy?"  
Location: Conference Center

Dinner price is \$11.00 per person,  
but spouses, retired chemists and  
students may attend for \$9.00.

It is not necessary to be a member of the American Chemical Society to  
attend. You may attend the lecture without attending the dinner.

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 in front of the Officers' Club (Building E-4650).  
Parking is in the rear.

#### NEW ACS JOURNAL IN MATERIALS CHEMISTRY

The American Chemical Society will launch a new bimonthly journal in  
January 1989, titled *Chemistry of Materials*. The Editor is Leonard V.  
Interrante of Rensselaer Polytechnic Institute. Dennis Hess of the  
University of California, Berkeley, and Gary E. Wnek of Rensselaer  
Polytechnic Institute are serving as Associate Editors.

The journal will publish original contributions on fundamental research  
with a molecular-level perspective at the interface of chemistry, chemical  
engineering, and materials science. Topics will include investigations,  
by experimental or theoretical means, of the preparation, processing, and  
properties of inorganic or organic solids and their surfaces, as well as  
liquid crystals and other molecular assemblages. Of particular interest  
will be research relating to materials of actual or potential technological  
relevance, where a fundamental understanding of the chemistry associated  
with material preparation, processing, or use is critical to successful  
utilization.

*Chemistry of Materials* is the fifth ACS research journal launched in recent  
years. *Organometallics*, *Langmuir*, *Energy & Fuels*, and *Chemical Research  
in Toxicology* were started in 1982, 1985, 1987, and 1988, respectively.

## A NEW PROGRAM HELPS ACS ZERO IN ON THE STATES

Community right-to-know • worker safety and health • ground water • productivity • waste disposal • technological education • R&D funding... These are just some of the issues concerning the public today. Anxious to address these issues, state legislatures are moving forward to ensure economic stability and environmental safety for their people. The tables are turning. In many cases it is the states that are establishing policies and setting precedents on national issues -- not the federal government. Many of these policies affect the chemical sciences and the day-to-day activities of its practitioners.

ACS and its members have become increasingly aware of these changing trends. In December 1987, the ACS Board of Directors moved to ensure that the Society is positioned to respond to state and local government policymakers in need of technical advice pertaining to the chemical sciences. As a result, a new program for *State and Local Government Affairs* (SLGA) was established within the Department of Government Relations and Science Policy early this year. The state and local government affairs program at ACS will work to determine the key issues in areas such as the environment, chemical safety and health, education, research, and technological development, and will serve as a point of coordination between those that have the knowledge (ACS members) and those that need it at the state and local levels.

The initial goal of the program is to publicize its existence in order to establish networks among ACS members, state government officials and organizations that interact with the states. The ACS local sections are an integral part of this network and will be informed of issues for their involvement through newsletters, notices, and personal contacts. In order to identify trends in state issues, a pilot group of twelve states has been selected for which legislative activities will be monitored on a routine basis. This initial group includes states that are known as legislative "trend-setters," and states that have undertaken new initiatives in areas that could affect the chemical sciences. All states will be monitored for activities on a few selected, key issues that are likely to have the greatest impact on the chemical sciences and its practitioners. A computerized legislative tracking service is being used to assist program staff with monitoring activities. ACS members are encouraged to participate in the SLGA program, to use it as a resource for identifying issues to which they might lend their expertise, and to establish contacts with government policymakers and citizen groups in their areas. These types of contacts will allow outside groups to see a more personal side of chemistry, which in turn, might alleviate some of their misconceptions about the chemical sciences and allow them to gain a better understanding of the contributions that science and technology make to their lives. Information about the SLGA program, as well as assistance from it, will be made available to selected state representatives and organizations.

The willingness of chemists and chemical engineers to become involved in science policy development will help to ensure that "sound science" is used when laws and regulations are written. If those in state and local governments can gain a better understanding of scientific and technological issues, they, in turn, can help science professionals educate the public about scientifically-based policy issues. A brochure highlighting the SLGA program is available upon request. For more information about the program or to receive the brochure, please contact: Michelle M. Boisse, Staff Associate, State and Local Government Affairs, ACS-GRASP, 1155 16th Street, NW, Washington, D.C. 20036; (202-872-4391).

## SMALL COMMITTEES HELP OPPRESSED SCIENTISTS -- YOU CAN JOIN

Despite the well-publicized release of a number of scientists by the Soviet Union during the past year, many are still being held in prison or exile or refused emigration by the authorities and continue to need our assistance. One of the best ways in which you as an individual scientist can help is to join a Small Committee on behalf of a fellow scientist or engineer being oppressed by the authorities.

Here is how the Small Committees function. Scientists and engineers in the U.S. and Canada are matched by discipline with an oppressed scientist or engineer in the Soviet Union (efforts are made to identify scientists in other countries in need of help as well). These persons comprise the Small Committee for their oppressed colleague. Their only responsibility is to correspond with their colleague periodically. Instructions are provided on how to start the correspondence; the objective is to show an interest in the scientific work of the colleague so that he or she does not feel totally isolated from the scientific community. Several scientists and engineers who have recently been allowed to emigrate from the Soviet Union have indicated that the personal interest of individuals in the outside world was important to them and to the outcome of their cases.

The activity is coordinated by Dr. Bernard Feldman, Physics Department, University of Missouri, St. Louis, MO 63121-4499, on behalf of the American Physical Society. About 20 chemists and chemical engineers in the Soviet Union have active Small Committees at present. The American Chemical Society's Committee on International Activities is cooperating with Dr. Feldman in the program. We urge you to write to Dr. Feldman indicating your willingness to join a Small Committee for someone in your discipline.

ACS Subcommittee on Scientific Freedom and/or Human Rights

## NATIONAL CHEMISTRY WEEK

That's an event you will be hearing (and doing) a lot about over the next several months. Plans are being made for the big week, Oct 29-Nov 4, 1989 and we want to work with you to produce the outstanding events you envision. Your successes in 1987's National Chemistry Day and your expressed interest in reaching out to tell chemistry's story to the public are the basis for this worthy effort.

We've all learned a lot from NCD '87, and National Chemistry Week '89 ought to be even smoother and better. For one thing, the ACS Coordinating Committee decided that it would be better to change from a national chemistry day to a national chemistry week to allow a broader "window of opportunity" for local section activities. This time frame will give you more flexibility in your planning and timing so you can take advantage of other events in your area. Often, riding the crest of another event can focus attention on your own events.

Almost universally, local sections noted that they did not get started soon enough and did not give enough time to cultivating the media prior to NCD. Planning should begin now for 1989 -- committees formed, ideas researched, and commitments made.

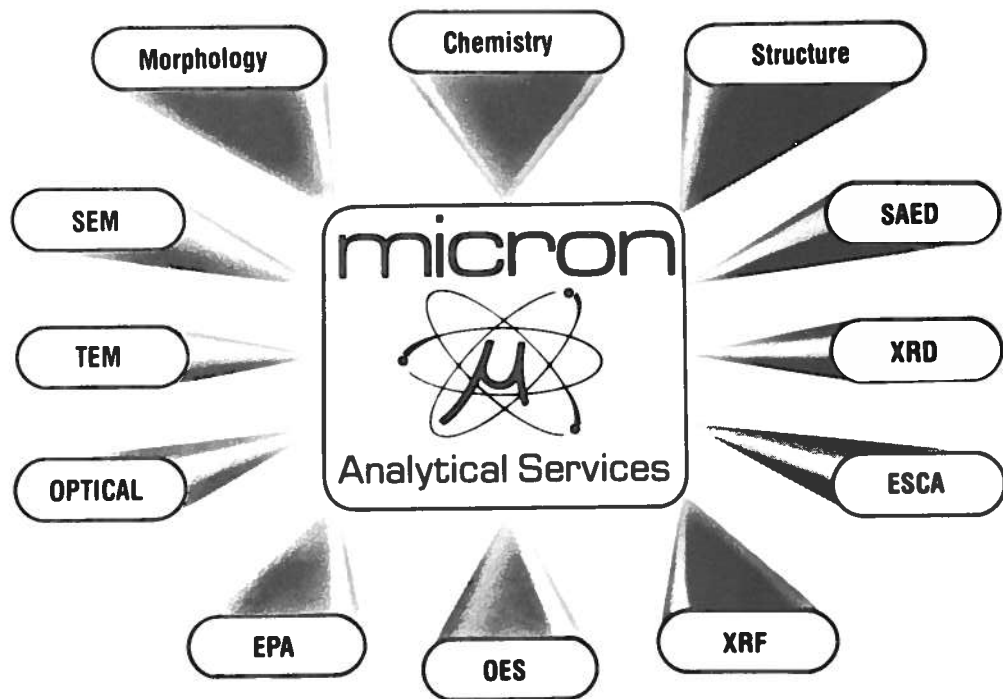
Jim Bradford has been appointed coordinator for National Chemistry Week and is already operating from his new office. Several preliminary meetings have been held with the ACS Coordinating Committee and other groups.

Vincent R. Tocci, ACS  
Dept. of Public Communication

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