



THE **CHESAPEAKE  
CHEMIST**

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XXXIII

DECEMBER, 1977

NUMBER 9



*THE MARYLAND CHEMIST OF THE YEAR*



# THE CHESAPEAKE CHEMIST

VOL. XXXIII

DECEMBER, 1977

NUMBER 9

A major new certification program for officially recognizing the professional efforts of U.S. chemists and chemical engineers has been announced by the American Institute of Chemists. Its purpose will be to credential those chemical scientists who regularly engage in professional development and continuing education activities for maintenance and advancement of their skills. Though sponsored by AIC, the program will be administered by the National Certification Commission in Chemistry and Chemical Engineering, whose headquarters are in Washington, D.C.

Certifiable activities recommended by the Commission for participation include: technical seminars, short term courses organized by scientific societies, college courses, publications, presentation of technical papers at symposia and other professional meetings, specialty instruction, attendance at scientific and professional meetings, reading the scientific literature and use of other self-learning activities, participation in the technical activities of scientific and engineering societies, similar participation in community projects, and receipt of awards for scientific achievement.

Participating chemists and chemical engineers will be eligible for two forms of recognition. Those who annually meet the Commission's certification unit requirements will be entitled to a listing in its yearly directory available to other scientists and engineers, employers, federal agencies, and professional societies, among others. Those who acquire the prescribed number of units over a three-year period will be certified for the ensuing triennium.

"At present," observed AIC President O. A. Battista of Fort Worth, Texas, "There is no comparable system for saluting those chemists and chemical engineers who regularly strive to maintain their professional competence. We feel the Institute's new program will meet that need." "It is also important to note," he said, "that our program is not a measure of professional performance. These are judgments best made by the chemical scientist's peers or his supervisors."

Chairman of the Commission is Joseph F. Englert, Jr., a research scientist with the DuPont Corporation in greater New Orleans. Both he and Battista stress that the new certification program is not a substitute for any other credentialing activity in chemistry or chemical engineering by which specific skills may be measured via examination.

In addition to evaluating the chemist's or chemical engineer's efforts to maintain competency, both Battista and Englert observed that the Institute's certification program has other objectives. It will, for example, serve as a means for recognizing training outlets for chemists and chemical engineers, will enhance their professional status, aid their job security or professional mobility in the technological community, offer legal recognition of their professional standing, improve public recognition of the chemical scientist's contributions to technology and the general welfare, and, perhaps most importantly, help foster a greater sense of self-esteem by the chemist or chemical engineer.

While the Commission's certification program is now sponsored solely by AIC, other professional societies will be contacted concerning their interest. Already, the American Chemical Society has designated an official liaison representative to the Commission, Richard Lemmon of the University of California (Berkeley).

Details on the program, including the certification unit point system, fees, and enrollment opportunities, can be obtained from David A. H. Roethel, Executive Director, National Certification Commission in Chemistry and Chemical Engineering, 7315 Wisconsin Avenue, Washington, D.C. 20014. Telephone: 301 - 652-8634.

## EDITORIAL STAFF

Eli Freedman.....Editor  
2411 Diana Road  
Baltimore, MD 21209  
Phone: (301) 484-0632 after 7 pm

Raymond C. Petersen..Associate Editor  
9329 Joey Drive  
Ellicott City, MD 21043  
Phone: (301) 465-8520 after 7 pm

Linda M. Sweeting...Associate Editor  
Department of Chemistry  
Towson State University  
Baltimore, MD 21204  
Phone: (301) 321-3112 (day)  
(301) 444-2415 (eve)

## CONTRIBUTING EDITORS

Carl E. Minnier, Essex Community College

## SECTION OFFICERS

Ernest L. Silversmith.....Chairman  
Chemistry Department  
Morgan State University  
Baltimore, MD 21239

James Leslie.....Chairman-Elect  
University of Maryland  
636 W. Lombard Street  
Baltimore, MD 21201

Robert Schneider.....Secretary  
Beckman Instruments Inc.  
1021 St. Michael Road  
Mt. Airy, MD 21771

Howard Cohen.....Treasurer  
Glidden-Durkee Div. of SCM  
3901 Hawkins Point Road  
Baltimore, MD 21226

## COUNCILLORS

Donald E. Jones F. Timothy Parr  
Carl Minnier David Roswell

COVER: Dr. Henry C. Freimuth  
The Maryland Chemist  
of the Year

## COMMITTEE CHAIRPEOPLE - 1977

Awards and National Nominations  
.....Joyce J. Kaufman  
The Johns Hopkins University  
338-7417

Chemical Education.....Melvin Miller  
Loyola College  
323-1010

Program.....James Leslie  
UMAB  
528-7440

House.....Ronald Kassel  
Edgewood Arsenal  
671-2761

Member Assistance....Joseph Cogliano  
W. R. Grace & Co.  
531-5711

Public Relations.....Carl Minnier  
Essex Community College  
682-6000, X 513

Membership.....Frances Hummel  
Alcolac, Inc.  
355-2600

Publicity.....Dave Roswell  
.....Norbert Zaczek  
Loyola College  
323-1010

Remsen Award.....Dean Robinson  
The Johns Hopkins University  
338-7430

Finance.....William Stahl  
377-8022

## BUSINESS MANAGER

Kent Zeller  
McCormick & Co., Inc.  
Hunt Valley, Maryland 21031  
Phone: 667-7432

## ALTERNATE COUNCILLORS

Clara I. Adams Patrick Callery  
Alvin Bober Thomas Simmons

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to Eli Freedman, 2411 Diana Road, Baltimore, Md. 21209. Send advertising copy and inquiries to Kent R. Zeller, McCormick and Co., Inc., 204 Wight Avenue, Hunt Valley, Md. 21031. 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.

HENRY C. FREIMUTH: THE MARYLAND CHEMIST OF THE YEAR

Henry C. Freimuth was born in New York City where he attended public primary and secondary schools. He graduated from the College of the City of New York (B.S., 1932) and New York University (M.S., 1933, Ph.D., 1938). In 1934 he was the assistant to the Pathological Chemist at New York's City Hospital. He was a teaching fellow at Washington Square College from 1935 to 1937, and an assistant instructor in chemistry there in 1937-38. He was next a research assistant in the Department of Therapeutics of the NYU Medical School (1938-39), after which he was a Special Agent-Analytical Chemist in the laboratory of the Federal Bureau of Investigation.

He left that position in 1944 to become Chief Toxicologist in the Office of the Chief Medical Examiner for the State of Maryland, where he remained until his retirement in 1972. During this period, he was also an assistant professor of legal medicine in the University of Maryland School of Medicine (1949-1957), and then associate professor of forensic pathology until 1973. He was also associate in forensic pathology at The Johns Hopkins University School of Hygiene and Public Health, and a guest lecturer at the Harvard School of Medicine.

Henry Freimuth's doctoral dissertation was written under the guidance of the late Alexander O. Gettler, one of the foremost forensic chemists in the United States, whose students included virtually all of the outstanding forensic pathologists in this country and Canada. Dr. Freimuth's achievements make him an outstanding member of this group. For 28 years he has been recognized as a national leader in his profession. He was responsible for developing a wide variety of analytical procedures, studying standards and separations of all types of drugs from body tissues. In particular he became an expert on the identification and quantitative determination of alcohol in the body, and was instrumental in the development of criteria that allow for the use of this information by the criminal justice system.

In addition, he developed one of the first graduate training programs in toxicology in the United States, at the University of Maryland. Today, graduates of this program provide toxicology services throughout the United States and Canada.

From 1946 to 1972, Dr. Freimuth was an adjunct professor of chemistry at Loyola College. In that year, he joined their faculty as a professor of chemistry, a position he still holds.

He has published approximately fifty papers and contributed chapters to reference works on forensic toxicology. In addition to being a member of many scientific and honorary societies, he is a founding fellow of the American Academy of Forensic Sciences, of which he served as chairman of the Toxicology Section from 1955 to 1957.

Henry Freimuth is an outstanding scientist dedicated to the development of his profession by research, public service, and teaching.

When did you last attend an ACS meeting?

# DECEMBER MEETING

DATE:

Wednesday, December 14, 1977

PLACE:

Knott Science Center  
The College of Notre Dame  
of Maryland  
North Charles Street

SPEAKER & TOPIC:

8:30 pm  
THE MARYLAND CHEMIST  
AWARD ADDRESS  
Dr. Henry C. Freimuth  
Loyola College  
"Forensic Toxicology -  
An Overview"

SOCIAL HOUR:

There will be a social hour after the meeting. Refreshments will be served.

COCKTAILS AND DINNER:

Doyle Building Dining Room  
College of Notre Dame of  
Maryland

Cocktails 6:30 - 7:15 (cash bar)

Hot buffet dinner (7:15)  
\$6.25 per person. Retired chemists, students, and their spouses may attend the dinner at \$4.25 each. Reservations are necessary for the dinner and should be made no later than December 9 with

ACS RESERVATIONS  
c/o James Leslie

Phone 528-7440 (9-5 weekdays)  
730-5761 (nights & weekends)

Or: USE THE CONVENIENT COUPON THAT APPEARS AT THE BOTTOM OF THE PAGE

It is not necessary to be a member of the American Chemical Society to attend the dinner or the talk. The talk may be attended without going to the dinner. You are invited to bring your spouse and friends to both the meeting and the dinner.

----- TEAR OUT DINNER RESERVATION FORM -----

Enclosed is \$\_\_\_\_\_ (\$6.25 per person)\* for dinner reservations at the College of Notre Dame for the following persons\*\*:

NAME	(Please print or type)	AFFILIATION
_____	_____	_____
_____	_____	_____

\* Please make check payable to Maryland Section, ACS, and mail together with reservation form to James Leslie, 5150 Downwest Ride, Columbia, MD 21044. Or phone 528-7440 (9 - 5 weekdays); 730-5761 (nights and weekends).

Return by December 9, 1977

### FORENSIC TOXICOLOGY - AN OVERVIEW

Forensic toxicology involves the applications of analytical techniques for the identification and quantitation of poisons to problems which become a matter of judicial concern. It is a field which had developed slowly from the beginning of the 19th century to the early part of the present century. With the almost simultaneous developments in the fields of instrumental methods of analysis, medicinal chemistry and pharmacology, however, it has become increasingly more effective and important in modern society. A review of the evolution of the field will be given and some comments made concerning probable future active areas.

### SMOKING BANNED DURING LECTURES AND DINNERS

At its meeting held on October 5, the Executive Committee of the Maryland Section voted to ban smoking during the lectures and dinners at all monthly meetings. Smoking will be permitted before the first lecture begins, during the cocktail hour and during the "beer-and-pretzels" session after the evening lecture. We ask that our smoking members please cooperate in this matter.

--ELS

### PERSONAL NOTES

Dr. Joseph F. Testa became Chairman of the Science and Mathematics Division of Essex Community College on July 1, 1977. He heads a division which now has 36 full-time and 30 part-time faculty in chemistry, biology, mathematics, physics, and engineering.

Dr. Testa received his BS (*magna cum laude*) from St. Michael's College (Vermont) and the PhD in Chemistry from The Johns Hopkins University (Robinson). He has also taught general chemistry in The JHU Evening College. Dr. Testa has been at Essex for the last seven years and has served as Chemistry Department Chairman since 1973, and as Acting Division Chairman since the spring of 1976.

The Department of Chemistry of Morgan State University is happy to announce the recent addition of Barbara Hunter to its ranks. Dr. Hunter, whose area of specialization is analytical chemistry, received her PhD from Howard University this past summer.

Edward Koubek of the Department of Chemistry of the US Naval Academy at Annapolis has been granted US patent 4,012,321 for "Oxidation of Refractory Organics in Aqueous Waste Streams by Hydrogen Peroxide and Ultraviolet Light."

*Abstract of Professor Koubek's patent:* A predetermined amount of hydrogen peroxide is added to an aqueous waste stream containing organic pollutants, the mixture thoroughly mixed and the resultant mixture irradiated with ultraviolet light. The irradiation by ultraviolet light facilitates the breakdown of the hydrogen peroxide into hydroxyl radicals which are capable of oxidizing virtually any refractory organic compound, thereby reducing the chemical oxygen demand of an aqueous waste stream.

Morgan's Student Affiliate Chapter of the ACS continues to be a very active group. Last year, under President Willis Ringo, it hosted a regional meeting of student affiliates. This year, the group is sponsoring lectures, raising money through a car wash and doughnut sales, attending Maryland Section meetings, and is planning numerous other activities. Officers are: President, Philip Keiser; Vice-President, Jimmie Mitchell; Secretary, Christina Dersch; and Treasurer, Quentin Toyloy. Other active members include Dorothy Ghee, Edith Staffard, Nancy Santonello, Roberta Cottrell, Alexis Nic Nixon, Rosezina Walker, Ralph Martin and Mohama Yazadanpanah.

### IOTA SIGMA PI SOLICITS WOMEN NOMINEES

Iota Sigma Pi, National Honor Society for Women in Chemistry, is soliciting nominations for The Iota Sigma Pi National Undergraduate Award for Excellence in Chemistry. Senior women chemistry students from accredited colleges and universities are eligible. For details write to Anne Sherren, Department of Chemistry, North Central College, Naperville, Illinois 60540. The deadline for nominations for the 1978 Award is February 1, 1978.

Iota Sigma Pi membership is open to women chemistry students, and professional women who meet the membership qualifications. For details write to Dr. Sherren.

### HOW YOUR COUNCILORS VOTED IN CHICAGO

The Council of the American Chemical Society met in Chicago during the week of the National Meeting. Three of the Maryland Section's four councilors, Donald Jones, Carl Minnier, and David Roswell, attended this meeting. Minnier's report on the meeting and his votes appeared in the November issue of *The Chesapeake Chemist*.

The following account is based primarily on Roswell's report; the votes of Jones and Minnier have been added to it in order to furnish a complete record in one place.

1. Procedure for Mail Ballot: This involves a change in bylaws to provide for a longer period (up to seven weeks) for the return of ballots in voting conducted by mail.  
Council Action: For DR: For DJ: For CM: For
2. Modification in Employment Guidelines: To require the employer to continue life insurance and medical care plans for a minimum of one month plus two weeks for each year of employee service for a terminée.  
Council Action: For DR: For DJ: For CM: ?
3. Increase in Allotments for New and Reinstated Members: Increase from \$2.50 to \$5.00 allotment paid to local sections, or divisions, for new or reinstated members.  
Council Action: For DR: For DJ: For CM: For
4. Allocations to CGEN to set the allocation to CGEN to 23% of the actual dues: This was debated extensively mainly questioning whether CGEN was doing a good job.  
Council Action: For DR: For DJ: For CM: Against
5. Fair Election Procedures: Basically this would allow disputed elections to come before the Council. Both constitutional and bylaw revisions were required.  
Constitutional Change: Council Action: For DR: For DJ: Against CM: ?  
Bylaw Change: Council Action: Recommit DR: Rec. DJ: Rec. CM: Rec.
6. Financial Support to Divisions: To allocate \$173,000 to the Divisions in 1978. This was hotly debated and the question of whether the divisional dues were realistic was questioned. A modified proposal was considered that did not suggest a specific figure and that provided for review and oversight. This proposal was voted on.  
Council Action: For DR: For DJ: For CM: Against
7. Increase in Division Councilor Representation: To change the composition of the Council from 13% divisional councilors to 20%. This was debated extensively on the Council Floor. Only a constitutional change was proposed. It was suggested that the mechanics should be set up in a bylaw revision. Amendments were proposed and a move to recommit considered.  
I was in favor of recommitting the proposal to separate it into constitutional and bylaw changes. This motion was, however, defeated.  
Council Action: For DR: Against DJ: Against CM: Against
8. Written Arguments to Accompany Petitions: This would allow for opponents and opponents to include arguments on proposed petitions to be included in the agenda prepared for Council meetings.  
Council Action: For DR: For DJ: For CM: For
9. Optional Subscription to CGEN by Retired and Emeritus Members: Presently these members automatically receive CGEN. This petition would require that they request it.  
Council Action: For DR: For DJ: For CM: ?



*Greetings of the Season*

*and best wishes*

*for the New Year*



### MICROANALYSES

Analysis for all elements,  
Trace analyses and molecular weights.



GALBRAITH LABORATORIES, INC.  
P.O. Box 4187 • Knoxville, TN 37921

The Chesapeake Chemist  
University of Maryland

636 W. 0117980X 12/77 ZP 301  
Baltimore DR YALE HOWARD CAPLAN  
8100 TAPSCOTT COURT  
PIKESVILLE MD 21208

1&&&

Nonprofit Org.  
U. S. Postage  
PAID  
Baltimore, Md.  
Permit No. 2917

P



ANALYTICAL SERVICE LAB  
P. O. BOX 3536, WILM., DE 19807  
PHONE 302 - 998-1184, 998-1185

## SPECIALISTS IN MICROSTRUCTURAL ANALYSIS

*10 Years Of Unexcelled Services*

- \* **DIFFERENTIAL SCANNING CALORIMETRY**  
*Thermal Transition and Thermo-Dynamic Properties*
- \* **SCANNING ELECTRON MICROSCOPY**  
*High resolution (100A) 3 dimensional microscopy*
- \* **TRANSMISSION ELECTRON MICROSCOPY**  
*High resolution (10A) microscopy of replicas and thin films*
- \* **OPTICAL MICROSCOPY**  
*Reflection, transmission, polarized, phase contrast*
- \* **QUANTITATIVE IMAGE ANALYSIS (STEREOLOGY)**  
*Particle or feature size and size distribution analysis*
- \* **ELECTRON PROBE X-RAY MICROANALYSIS**  
*Qualitative and quantitative elemental (>Be) microanalysis*
- \* **ELECTRON SPECTROSCOPY FOR CHEMICAL ANALYSIS**  
*Analysis of thin (25-50A) surface films*
- \* **OPTICAL EMISSION SPECTROSCOPY**  
*Semi quantitative and quantitative analysis of trace elements*
- \* **X-RAY AND ELECTRON DIFFRACTION**  
*Identification of crystalline compounds*
- \* **MICRO-HARDNESS TESTING (KNH & DPH)**

*All the above services are in house capabilities*

**Special Proprietary Sample Preparation Techniques  
Have Been Devised To Optimize The Analytical Data**

**For Further Information Contact J. F. Ficca Jr.**