



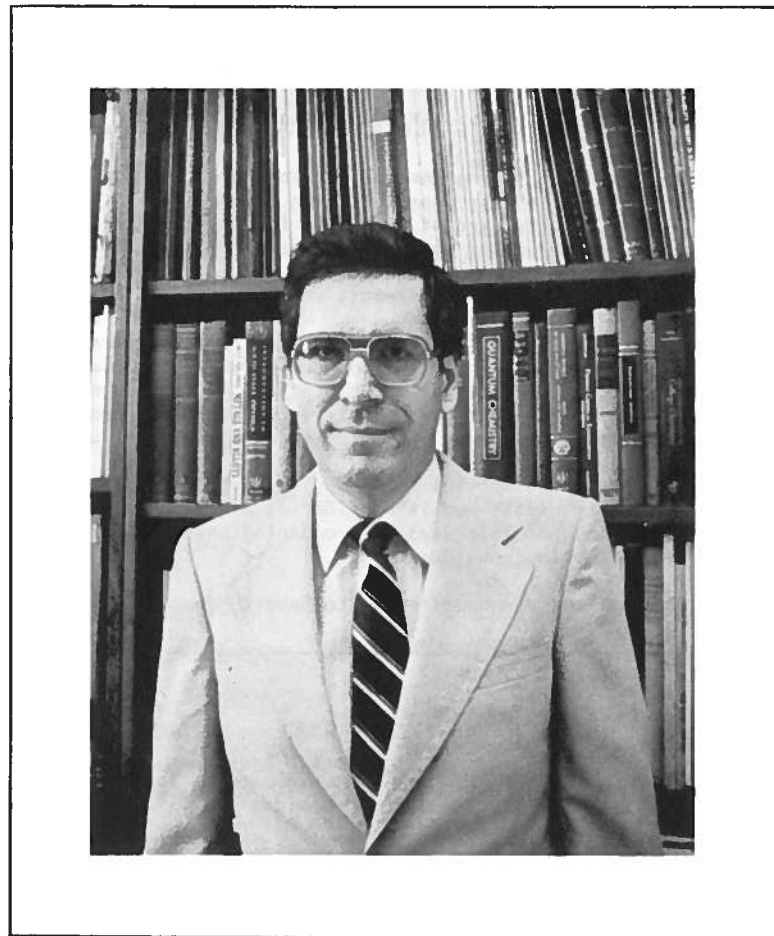
THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XXXVIII

DECEMBER, 1982

NUMBER 9



THE MARYLAND CHEMIST OF THE YEAR

THE EDITOR NOTES

From our Councilors' report of the Kansas City meeting we note two major controversies. One involved a petition to increase the annual allotment to local sections by two dollars for each of the first five hundred members. This petition would obviously provide the greater aid to the smaller sections. The petition failed, and our three Councilors voted against it.

The other controversial petition, which, although supported by our Councilors, also failed narrowly, proposed to levy a charge for C&EN on members new in emeritus status. Wouldn't this be similar to the government renegeing on social security benefits, or an employer failing to pay advertised retirement benefits? Isn't there an implied contract between ACS and its members which promises free membership for life, including C&EN, after the member has paid dues for a suitable number of years and has achieved an appropriate age and status? Or is cost cutting more important?

Your opinions on these and other questions are welcomed by your Councilors, your Executive Committee and *The Chesapeake Chemist*. It's your society, and your feelings count, but only when you make them known.

The Editor also notes, with pleasure, the selection of Ernest Silversmith to receive the Maryland Section's 1982 Distinguished Service Award.

ACS EMPLOYMENT AIDS

The ACS provides a number of programs and services directed toward helping members find suitable employment, most of which are well known to ACS members. At the present time the ACS Board of Directors is considering new activities to strengthen the employment aid program. These activities are outlined in a report by Warren D. Niederhauser, Chairman of the Board Committee on Professional and Member Relations. The report was printed in C&EN.

One possible new venture would include a program directed toward corporate management emphasizing the fact that hiring during an economic downturn offers an opportunity to upgrade staff quality, since more quality is available in a buyer's market. ACS is considering special recognition and identification of those employers who offer reasonably stable employment.

The ACS national employment service is scheduled for computerization in order to increase its effectiveness, and is considering preparation of a job-hunting handbook. In addition, possible ways of broadening and strengthening other existing programs are being considered.

Questions and suggestions can be directed to Robert Neuman, ACS staff director of professional relations.

BAEKELAND AWARD

The North Jersey Section of ACS is inviting nominations for the 1983 Leo Hendrik Baekeland Award. The deadline for nominations is January 3, 1983.

This prestigious award, sponsored by Union Carbide Corporation, is given biennially to recognize accomplishments in pure or industrial chemistry in the image of Baekeland.

The Editor and the Secretary of the Maryland Section can provide more detailed information to anyone wishing to make a nomination.



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THE MARYLAND CHEMIST OF THE YEAR

JOSEPH L. KATZ

Joseph L. Katz, who was born and raised in Panama, received his bachelor of science and Ph.D. degrees from the University of Chicago in 1960 and 1963, respectively. His doctoral work was performed under the direction of Dr. S. A. Rice. Dr. Katz came to the Johns Hopkins University in 1979 when the University reestablished its G.W.C. Whiting School of Engineering. Prior to his move to Baltimore, Dr. Katz had been a professor of Chemical Engineering at the Clarkson College of Technology in Potsdam, New York; visiting professor of Chemical Engineering at the Massachusetts Institute of Technology; and professeur associe, Université d'Aix Marseille III, Marseille, France. From 1964 to 1970, he had been a member of the technical staff at North American Aviation Science Center. He was on the faculty of the University of Copenhagen from 1963 to 1964. Presently, Dr. Katz is professor and chairman of the Department of Chemical Engineering at Johns Hopkins, and director of the University's Energy Research Institute.

Dr. Katz's research interest is the study of nucleation phenomena. He has developed the upward thermal diffusion cloud chamber for use as a reliable tool to study homogeneous condensation nucleation; he has also performed experiments on the nucleation of binary mixtures. Dr. Katz is currently studying the nucleating effect of ultraviolet light, and the kinetics of the nucleation that occurs when a phase transition accompanies a chemical reaction.

In 1976, Dr. Katz received a John Simon Guggenheim Memorial Foundation Fellowship; he was awarded the John W. Graham Research Prize in 1975. He is a fellow of the American Association for the Advancement of Science and the American Physical Society, and a member of the American Institute of Chemical Engineers, the American Chemical Society, and Sigma Xi.

HOMOGENEOUS NUCLEATION

Evaporation from the surface of a pure liquid is a phase transition that occurs so reproducibly that such transitions are often used as thermometric fixed points. For example, water has a "boiling point" of 100° C. If one eliminates all surfaces from which a liquid could evaporate, however, it becomes possible to heat a liquid to a temperature much higher than its equilibrium boiling point. In practice, one can eliminate all "free surfaces" by surrounding a liquid with another whose boiling point is much higher. There is a limit, though, to which a liquid may be "superheated" before it will spontaneously and explosively vaporize. To use the everyday example of water in frying pan oil, the drops of water surrounded by hot oil will superheat to about 280° C, but then submicroscopic bubbles will form and grow very rapidly, displacing the oil around them, thus causing the oil to splatter.

Homogeneous nucleation theory describes the limits to which liquids may be superheated (or supercooled) and gases may be supersaturated before spontaneously undergoing a phase transition. This talk will explain the principles behind the theory of homogeneous nucleation, and will cite a number of "real-world" situations in which homogeneous nucleation is the dominant mechanism for phase transition. The experimental techniques for studying nucleation phenomena will also be discussed, and, if time permits, a new phenomenon—light induced nucleation—will be described.

THE MARYLAND CHEMIST AWARD

DATE:

Wednesday, December 15, 1982

PLACE:

Knott Science Center
(cocktails and dinner in the
Doyle Building dining room)
The College of Notre Dame
of Maryland
North Charles Street
Baltimore

SPEAKER AND TOPIC:

THE MARYLAND CHEMIST
AWARD ADDRESS
8:30 pm
Dr. Joseph L. Katz
The Johns Hopkins University
"Homogeneous Nucleation"

COCKTAILS AND DINNER:

Cocktails 6:30
Sponsored by Fisher Scientific
Dinner 7:30

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

Charles Rowell
Chemistry Department
U. S. Naval Academy
Annapolis, MD 21401

by December 6. Late reservations
may be made by calling Linh Cheong
(x 208) or Cheryl Manger (x 358)
at

(301) 355-3600

by December 8.

Dinner price \$10.00 per person, or \$8.00 for retired chemists and students.

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

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 field of chemistry. The achievement may be in pure or applied chemistry, chemical engineering or chemical education.

Previous recipients have been:

1962	Dr. E. Emmet Reid	1972	Dr. Arnold M. Seligman
1963	Dr. W. Mansfield Clark	1973	Dr. Lester P. Kuhn
1964	Dr. Alsoph H. Corwin	1974	Dr. Joyce J. Kaufman
1965	Dr. John C. Krantz, Jr.	1975	Dr. Benjamin Witten
1966	Dr. Belle O. Talbot	1976	Dr. Richard L. Hall
1967	Dr. Walter S. Koski	1977	Dr. Henry C. Freimuth
1968	Dr. George L. Braude	1978	Dr. Gunther L. Eichhorn
1969	Dr. Leslie Hellerman	1979	Dr. Emil H. White
1970	Dr. Paul H. Emmett	1980	Dr. M. Gali Sanchez
1971	Dr. Giles B. Cooke	1981	Dr. Paul O. P. Ts'o

There will be no January meeting of the Maryland Section. Consequently, the January and February issues of *The Chesapeake Chemist* will be combined and will appear in early February. We wish everyone a happy holiday season.

COUNCILORS' REPORT FROM KANSAS CITY

The Council met for four hours and twenty minutes on September 13, 1982. All three of the Maryland Section Councilors were present during the entire meeting. Don Jones, who at the moment is chairman of the Middle Atlantic Regional Councilors caucus, was recognized on the Council floor for his having served for the statutory limit on the Committee for Professional Training.

Several straws are in the wind. Professor Basolo, President-elect of the Society, seems determined to reduce the number of national meetings during the year. Since we have contracts until 1990 for the current two-a-year, it is likely that his effect will not be immediate on this issue. During the year to date 10,633 new members have joined the Society. Dr. Mariella, who retires as Executive Director in December, has built the Society to an all time high of 128,000 members. Due to the financial pressures an effort is being made to substantially reduce the size of Council. The minimum possible size, based on constitutional requirements, is about 45% of the current value. Such a cut would leave the Maryland Section with one Councilor. Such extreme cutting isn't likely, but we have to keep our section growing if we are to avoid losing another Councilor as we did last year.

The financial situation of the Society remains mixed. The reserve that has been built up in good years is having to be invested carefully as the investment market has gone soft. So, too, has the advertising revenue for C&EN, which is running a deficit for the first time in six years. Some of the reserve will have to be used to cover such shortfalls. Careful economies in operations have saved nearly enough to cover the operating shortfalls but Chemical Abstracts On-line has boomed more rapidly than anticipated and needs sixteen million dollars from reserves if it is to stay competitive during its formative period as its computer capability is being exceeded.

The petitions that came before Council for action were the major time consumers. The petition to place a statutory limit on the authorized life-times of joint Board-Council Committees passed with the needed two-thirds vote. At the end of the elapsed time the governing bodies may choose to reauthorize, but it takes considered action.

The petition to charge members new in emeritus status for C&EN was debated for over an hour. With rapidly increasing numbers of such honorees the burden on dues-paying members and the programs supported from dues will rise to significant values. The intent of the policy change was lost in misunderstandings of the need and the purpose. After a great deal of parliamentary maneuvering and attempts to clear the air, the vote narrowly failed to achieve the two-thirds vote required. Your Councilors voted for the petition.

A slightly longer period was spent on the petition to increase the allotment to sections by increasing the *per capita* for the first hundred members for each section. The increase would be two dollars per members. Several sections seem to be in serious financial trouble and this was intended to help them, but would have included all sections in the increase. The overall impact would have been a cost of about one dollar per member on national dues. Your Councilors felt that the money was not targeted well enough at the problem. The petition failed narrowly with your Councilors voting against it. We earnestly hope that a more effective action can be developed to help those facing bankruptcy.

Don Jones
David Roswell
Charles Rowell

DISTINGUISHED SERVICE AWARD TO ERNIE SILVERSMITH

Ernest F. Silversmith has received the Maryland Section's Distinguished Service Award for 1982. Previous recipients of this award were Don Jones and Tim Parr.

A graduate of Harvard, Ernie received his Ph.D. from the University of Wisconsin in 1955. He was a research fellow for one year at the California Institute of Technology following which he taught at Mount Holyoke College for two years. From 1958 to 1967 he was a research chemist at E. I. duPont de Nemours and Company, working in areas of organic synthesis, photochemistry, electro-organic chemistry and polymer chemistry.

Since 1967 Ernie has taught chemistry at Morgan State University, where he was department chairperson from 1967 to 1973. He held an appointment as Visiting Professor at the Johns Hopkins University in 1980-1981. He has authored twenty-seven papers and patents in various areas of chemistry and chemical education.

Ernie served the Maryland Section continuously since 1970 as a member of the Executive Committee. He has held the offices of Secretary, Treasurer and Chairman-elect. In 1977 he was Chairman of the Section. Currently he serves as both Archivist and Chairman of the Awards Committee (a committee which, curiously, does not participate in selecting the recipient of the Distinguished Service Award).

ACS CONGRESSIONAL FELLOWS

The ACS is seeking candidates for a one year appointment for its two ACS Congressional Fellowships. The deadline for applications is January 31, 1983, and the fellowship term will begin in September 1983. Further information can be obtained from ACS Headquarters in Washington, the Department of Public Affairs: telephone (202) 872-4384.

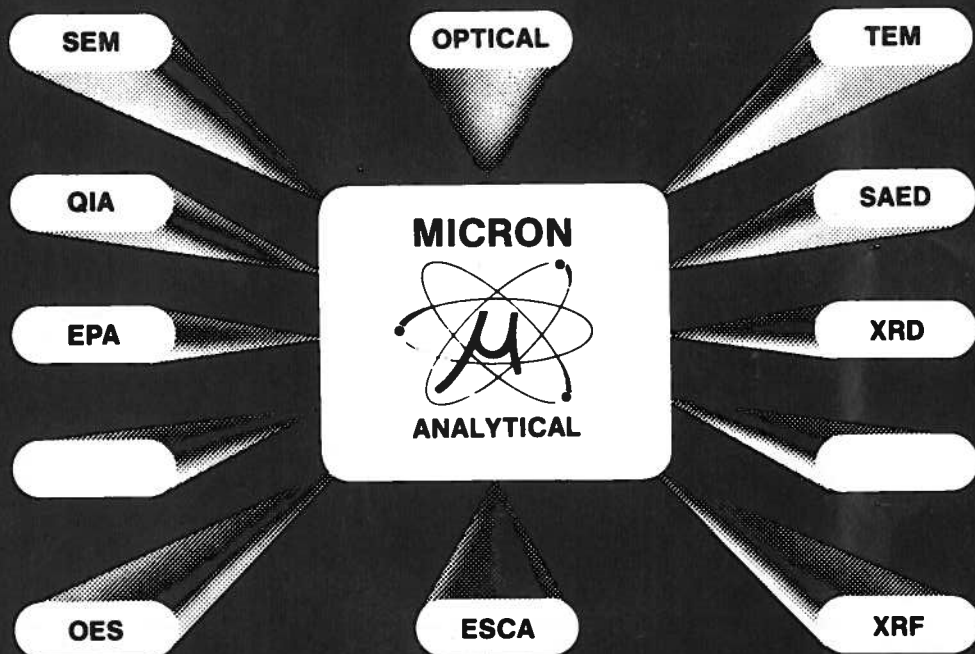
MARYLAND SECTION FUTURE PROGRAM

<u>Date</u>	<u>Location</u>	<u>Speakers</u>	<u>Topic</u>
February 23	College of Notre Dame	Mark Elert U. S. Naval Academy	
		Ahton Peterlin NBS	Deformation of Semi-crystalline Polymers
March 30	College of Notre Dame	V. Frank Boyd Litton Bionetics	Pesticides - Chemistry and Politics
		Dorit Noether CHEMTECH	H ₂ O - a 360° View
April 20	U. S. Naval Academy	Nina Roscher American University	Careers in Chemistry
		Charles Braun Dartmouth College	
May 18 (tentative)			Remsen Award

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