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NOVEMBER 21



# THE CHESAPEAKE CHEMIST

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**NOVEMBER MEETING**

**DRUGS AND BIOCHEMISTRY**

**DATE:**

WEDNESDAY, NOVEMBER 21, 1973

**PLACE:**

Eudowood Gardens Lecture Room, Eudowood Plaza, Joppa Road near Goucher Boulevard.

**SPEAKERS AND TOPICS:**

5:30 P.M. Dr. S. P. Massie, U.S. Naval Academy. "Some Aspects of Modern Chemotherapy"

8:30 P.M. Dr. Ajay Bose, Stevens Inst. of Tech. "Penicillin, Drug Resistance and Allergy"



DR. AJAY BOSE

**COCKTAILS AND DINNER:**

Eudowood Gardens Dining Room. Open Bar, 6:30 (Courtesy of Fisher Scientific Co.). \$5.00 for hot buffet dinner (7:15). Students, Retired Chemists and their spouses may attend the dinner for \$3.00 each. Reservations needed. Contact Mr. A. Bednarczyk McCormick & Co., Inc., 204 Wight Avenue, Hunt Valley, Md. 21031, phone 667-7480,7470. Non-ACS members may attend; talks may be attended without attending dinner. Guests are welcome.



DR. SAMUEL P. MASSIE

**SOCIAL HOUR:**

All are invited to refreshments during the Social Hour after the meeting.

## DR. SAMUEL P. MASSIE

Dr. Samuel P. Massie, professor of Chemistry at the United States Naval Academy, Annapolis, is a native of North Little Rock, Arkansas, and graduated from high school at the age of 13. He attended Dunbar Junior College in Little Rock, Arkansas, and Arkansas A.M.N. College in Pine Bluff, Arkansas, from which he received his B.S. degree in Chemistry, graduating summa cum laude at the age of 18. He received his M.A. degree in Chemistry from Fisk University in Nashville, Tennessee, and the Ph.D. degree in Organic Chemistry from Iowa State University in Ames, Iowa.

During World War II, Dr. Massie participated in military research, working on chemical warfare agents, the atomic bomb, and antimalarial agents. During the summers of 1946 and 1947, he was a research chemist with the Eastman Kodak Co. He has been chairman of the chemistry departments of Langston University in Oklahoma and Fisk University, as well as heading the Pharmaceutical Chemistry Department of Howard University in Washington, D.C. From 1960-63, he was Associate Program Director of the National Science Foundation, where he had primary responsibility for the eight million dollar undergraduate equipment program. From 1963-66, he was President of the North Carolina College at Durham, which position he left to join the faculty of the United States Naval Academy.

Dr. Massie's research interests are in drugs, and he has received over 15 grants, totaling over \$100,000, from which over 25 publications have resulted. In 1955, he read a paper on his cancer research in Zurich, Switzerland. He is presently carrying out antimalarial research in cooperation with the Walter Reed Army Institute. He is currently writing a series of 14 articles on outstanding black chemists for CHEMISTRY.

Dr. Massie has received many honors and awards. In 1961, he was awarded the Manufacturing Chemists' Association Award as one of the six top college chemistry teachers in the nation. In 1964, he received an Iowa

State Alumni Merit Award. He was elected President of the Oklahoma Academy of Science in 1953, National President of Beta Kappa Chi Scientific Society from 1956-59, and was National Chairman of the Committee on Visiting Scientists in Chemistry from 1958-60. He was Sigma Xi Lecturer at Swarthmore College in 1956. He is listed in American Men of Science, and in Who's Who in the South and Southwest. He is a member of the American Association for the Advancement of Science and has been elected to Fellowship in the American Institute of Chemists. He has been elected to membership in Sigma Xi, Phi Lambda Upsilon, and Rho Chi Honorary Pharmacy Fraternity. In May, 1970, the University of Arkansas awarded him the honorary Doctor of Laws degree, the first black so honored. He was recently elected Chairman-elect of the Division of Chemical Education of the American Chemical Society for 1973.

Dr. Massie is a member of many educational, scientific, and social organizations, and is engaged in several national projects. He serves as an educational and scientific consultant and lectures and visits numerous educational institutions. He is a member of the Board of Trustees of the College of Wooster and the Key School. He is a member of the Board of Advisors of the Herbert Lehman Educational Foundation and the Board of Visitors of Towson State College. He is Vice-Chairman of the Maryland State Board of Community Colleges.

## SOME ASPECTS OF MODERN CHEMOTHERAPY

One of the most thrilling chapters in man's history is the struggle to obtain and maintain health. In this fight, one of the best weapons is (and has been) chemicals (drugs). The word chemo-therapy means healing by drugs. This talk shall describe some aspects of that struggle, including: (a) the major health problems facing mankind; (b) the history of drugs; (c) factors which influence the selection of drugs to be synthesized; (d) problems which affect the selection of drugs; and (e) newer tools which greatly assist the struggle.

A more detailed presentation will be made with regard to the two types of health problems faced. One will describe the struggle against a disease caused by the presence of an outside organism (germ); in this case, malaria. The other will be a functional ailment (a breakdown of the body's own mechanisms); in this case, mental ailments.

A brief description of some personal research will be made, with emphasis on the values of this field in undergraduate teaching and research.

## DR. AJAY BOSE

Ajay Kumar Bose was born in Silchar, India on February 12, 1925. He received his B.Sc. (1944) and M.Sc. (1946) degrees from the University of Allahabad and his Sc.D. in Organic Chemistry from M.I.T. in 1950. He held Post-Doctoral research positions at Harvard University (1950-1951) and the University of Pennsylvania (1956-1957). He also holds an honorary M. Engg. from Stevens Institute.

In 1951, Dr. Bose accepted a position as Lecturer and Assistant Professor at the Indian Institute of Technology. After a year of Post-Doctoral experience at the University of Pennsylvania, he joined the Upjohn Company as a Research Chemist. In 1959, he left Upjohn to join the faculty of the Stevens Institute of Technology, as an Associate Professor where, since 1961, he has held the title of Professor of Chemistry.

Dr. Bose has been the recipient of numerous academic awards including the Jubilee Gold Medal, 1946, University of Allahabad; the Overseas Fellowship of the Government of India, 1947-1950; the Saha Memorial Prize for popular science writing, 1956; the Commonwealth Prize for popular science writing, 1956; and the Ottens Research Award of the Stevens Institute of Technology for the total synthesis of trans-penicillin, 1969.

Dr. Bose is the author or co-author of over 120 research publications in various fields of organic chemistry, and has presented papers at various international meetings and has been an invited speaker at several symposia. Dr. Bose is co-author of Synthesis of Penicillin, Cephalospo-

in C and Analogs, (Marcel Dekker, pub.) and Beta-Lactams, Natural and Synthetic (Wiley-Interscience). Dr. Bose's research interests are the areas of synthetic organic chemistry, stereochemistry, biogenesis, natural products, and bio-organic chemistry.

## PENICILLIN, DRUG RESISTANCE AND ALLERGY

Natural and semi-synthetic penicillins are some of the most commonly used antibiotics these days. Semi-synthetic cephalosporins are also increasing in popularity. All these compounds have the  $\alpha$ -amido- $\beta$ -lactam ring in common. In recent years much has been learned about the structure-activity relationship of  $\beta$ -lactam antibiotics. New penicillins and cephalosporins are being designed to fight infections which cannot be adequately treated with natural penicillin. There is also a better understanding now of allergy to penicillins and cephalosporins, although the total picture is not entirely clear. The wide spread use of penicillins for certain types of animal feed has made the phenomenon of "Drug Resistance" an important consideration in prescribing  $\beta$ -lactam antibiotics for human use. The physiological activity of a few  $\beta$ -lactam antibiotics will be discussed in terms of their molecular architecture.

## COVER DESIGN BY JANICE WESTON

IF YOU CHANGE YOUR ADDRESS . . . Please do not notify the Editor of the *Chesapeake Chemist*, but send your new and old addresses to: The American Chemical Society, 1155 Sixteenth Street, N. W., Washington, D. C. 20036. The Maryland Section will then be notified.

# NOMINATIONS FOR SECTION OFFICERS

## 1974 Offices Announced

Prior to the talk at 8:30 P.M. the election will be held for officers, councilors and members-at-large of the executive committee to serve the Maryland Section in 1974. The Nominating Committee, consisting of Dr. Thomas C. Simmons (Chairman), Dr. Joseph A. Cogliano, Dr. Fred Gornick, Mr. James W. King, and Mr. Tim Parr, has presented the following slate of candidates. Additional nominations may be received from the floor with the understanding that any candidate must have given prior consent to such nomination.

Chairman-elect.....A. Allen Bednarczyk  
Secretary.....Melvin P. Miller  
Treasurer.....Ernest F. Silversmith  
Councilor.....Carl Minnier, '74-'76  
Alternate  
Councilor.....James Leslie, '74-'76

Members-at-large:  
Theodor Berenthien  
Robert Ellin  
Ronald Kassel  
Robert Schneider  
Victor Vitullo

## Candidates

### CHAIRMAN ELECT

A. Allen Bednarczyk was born in Baltimore, January 1, 1942. He received his B.S. in chemistry from Loyola College (Baltimore) in 1964. After graduation, he was employed as a Research Chemist by McCormick & Co., Inc. in their Corporate Research and Development Laboratories. While working at McCormick, he received his M.S. (1971) and Ph.D. (degree to be conferred December, 1973) in Food Science from the University of Maryland, College Park. His work at McCormick is involved mainly with food flavor research.

He is a member of the A.C.S., the Society for Applied Spectroscopy, the Institute of Food Technologists and the American Society for Mass Spectrometry. He has served the Maryland Section of the A.C.S. for several years, serving as Member of the Executive Committee, Chairman of the House Committee, Member and Chairman of the Nominating Committee, Assistant Editor of the Chesapeake Chemist and as section Treasurer.

### SECRETARY

Melvin P. Miller was born in Baltimore on May 17, 1935. He received his B.S. degree (magna cum laude) from Loyola College (Baltimore) in 1957 and was the recipient of the McNeal Gold Medal for Chemistry and the American Institute of Chemists Student Medal, Baltimore Chapter, in 1957. He received his M.A. (1959) and Ph.D. (1962) degrees in physical chemistry from Princeton University. While at Princeton, he held teaching assistantships from 1957-1959, was a McGay Fellow, 1959-1960 and a Research Assistant, 1960-1961. Dr. Miller received an NSF grant to attend the Conference on Surface, Colloid and Macromolecular Chemistry at Lehigh University in July, 1965. He also received another NSF grant for Research Participation for College Teachers, Boston University, Summer, 1969.

Dr. Miller is a member of the ACS, the Maryland Academy of Sciences, Sigma Xi and the Middle Atlantic Association of Liberal Arts Chemistry

Teachers. He has served the Maryland Section of the ACS as co-editor of the Chesapeake Chemist, 1962; Member of the Remsen Award Committee, 1965; Member of the Nominating Committee, 1968; Alternate Councilor, 1970-1972; Member of the Executive Committee, 1962, 1969-1972; Co-chairman, Physical Session, Maryland-Washington Meeting-in-Miniature, 1964; Chairman, Education Committee, 1972.

### TREASURER

Dr. Ernest Silversmith was born in Nuremburg, Germany. He received his early education in Takoma, Washington. He received his undergraduate training at Harvard University, receiving his A.B. in Chemistry in 1952. In 1955, Dr. Silversmith received his Ph.D. in Organic Chemistry from the University of Wisconsin after which he spent one year of Post-Doctoral research at the California Institute of Technology under Professor John D. Roberts. From 1956-1958, he was an Assistant Professor of Chemistry at Mount Holyoke College. In 1958, Dr. Silversmith became a research chemist with E. I. du Pont de Nemours Company. In 1967, he left du Pont to assume his present position as Professor of Chemistry and Chairman of the Chemistry Department of Morgan State College.

Dr. Silversmith has served the Maryland Section of the A.C.S. in many capacities, most recently as the coordinator of the Maryland A.C.S. scholarship program and as section Secretary.

### EMPLOYMENT OPPORTUNITIES

The Maryland Section of the American Chemical Society has learned of a job opening in the Bethesda area. The job requires a B.S. or M.S. organic chemist with university or industrial experience in organic synthesis to assist a senior investigator in the preparation of compounds of possible use in the treatment of cancer. Contact the Personnel Department, Microbiological Associates, 4733 Bethesda Avenue, Bethesda, Md. 20014, phone (301)654-3400, ext. 226.

If you are interested in information regarding other jobs in the Maryland area or know of any openings in this area, please call Allen Bednarczyk, McCormick & Co., Inc., 204 Wight Avenue, Hunt Valley, Md. 21031, phone (301)667-7480, 667-7470.

### DECEMBER MEETING WINE TASTING

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\*\*Return by Friday preceeding next meeting.

## EXECUTIVE COMMITTEE MINUTES

Minutes of the Executive Committee Meeting of the Maryland Section of the American Chemical Society held on October 9, 1973 at McCormick & Co., Inc.

Present: A. Bednarczyk, T.C. Berenthien, Y. Caplan, H. Cohen, M. Dudnikov, R.I. Ellin, W.G. Galetto, D.E. Jones, R.J. Kassel, J.J. Kaufman, M.P. Miller, C.E. Minnier, R. Schneider, E.F. Silversmith, T.C. Simmons, K. Zeller.

The meeting was called to order by the Chairman, Y. Caplan. The minutes of the previous meeting (April 30, 1973) were approved. The treasurer's report was also approved; it showed a current balance of about \$9700. To date, 456 members have paid section dues.

Y. Caplan announced that the section contributed \$100 to a memorial fund at the Johns Hopkins University that has been established in honor of the late Dr. Richard Kokes. Y. Caplan read letters from Mrs. Kokes and from Dr. John Gryder acknowledging this gift.

Y. Caplan also announced that (1) national A.C.S. headquarters is requesting nominations for 1975 officers and (2) Dr. Lester Kuhn will receive the Maryland Chemist Award at the monthly dinner meeting on October 24.

M.P. Miller of the Chemical Education Committee announced that he hopes to offer another short course in 1974. The Executive Committee voted to underwrite such a project to the extent of \$100.

Y. Caplan read a letter stating that the Student Affiliate at Mt. St. Mary's College has been selected as outstanding for 1972-73. Students and faculty advisors will be invited to be guests of the section at a future monthly meeting.

Y. Caplan stated that G. Braude of the Government Liaison Committee suggests that the section establish contact with state legislators with chemical backgrounds in order to keep informed on legislation of interest to chemists.

D.E. Jones of the Program Committee made these announcements: (1) the speakers for the April 17 meeting at UMBC will be Drs. Udenfriend and Rosen of Hofmann-LaRoche and U. of Maryland, respectively; (2) the October meeting will be held on the 24th, not the 17th as previously an-

nounced; (3) Dr. Caddock, scheduled to speak on January 23, will be out of the country; a replacement is being sought; (4) the Washington Section would like another joint meeting on December 12, 1974 at College Park.

C.E. Minnier of the Public Relations Committee is continuing his efforts to get articles about local chemists into the news media.

T.C. Simmons reported that the Nominating Committee has come up with the following slate for 1974:

Chairman-Elect: A. Bednarczyk  
Secretary: M. R. Miller  
Treasurer: E. F. Silversmith  
Councilor('74-6) C. E. Minnier  
Alternate  
Councilor('74-6) J. Leslie  
Members-at-Large: (5 to be elected)  
R. J. Kassel  
R. I. Ellin  
T. C. Berenthien  
R. Schneider  
V. Vitullo

K. Zeller reported that the Chesapeake Chemist needs \$825 to cover deficits until the end of 1973. The Committee voted to grant this amount.

J.J. Kaufman reported that the councilors voted (at the National ACS Meeting) to increase dues \$3 for one year; after that, the dues will be determined by the cost of living index. This matter will be reviewed by the council.

The Committee voted to contribute its share of the profits of the most recent MARM (\$275) for the funding of the E. Emmett Reid Award, to be given to an outstanding college teacher.

The Committee approved placing a notice in the Chesapeake Chemist asking for donations of journals for Wilkes College, Pa. and the University of Mexico.

The Committee voted to nominate J. J. Kaufman for the ACS Council Policy Committee.

Respectfully submitted  
Ernest F. Silversmith  
Secretary

9th Middle Atlantic

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### A Steam Engine Railroad Trip to the Historic American Home of Joseph Priestley in Northumberland, Pennsylvania, at the Priestley MARM

April 23-26, 1974

#### THE CALL FOR PAPERS

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A list of chairmen and further information may be obtained from the technical program chairman: Dr. Bennett Willeford, Chemistry Department, Bucknell University, Lewisburg, Pa. 17837.

Abstracts Receipt Deadline—January 15, 1974.

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