



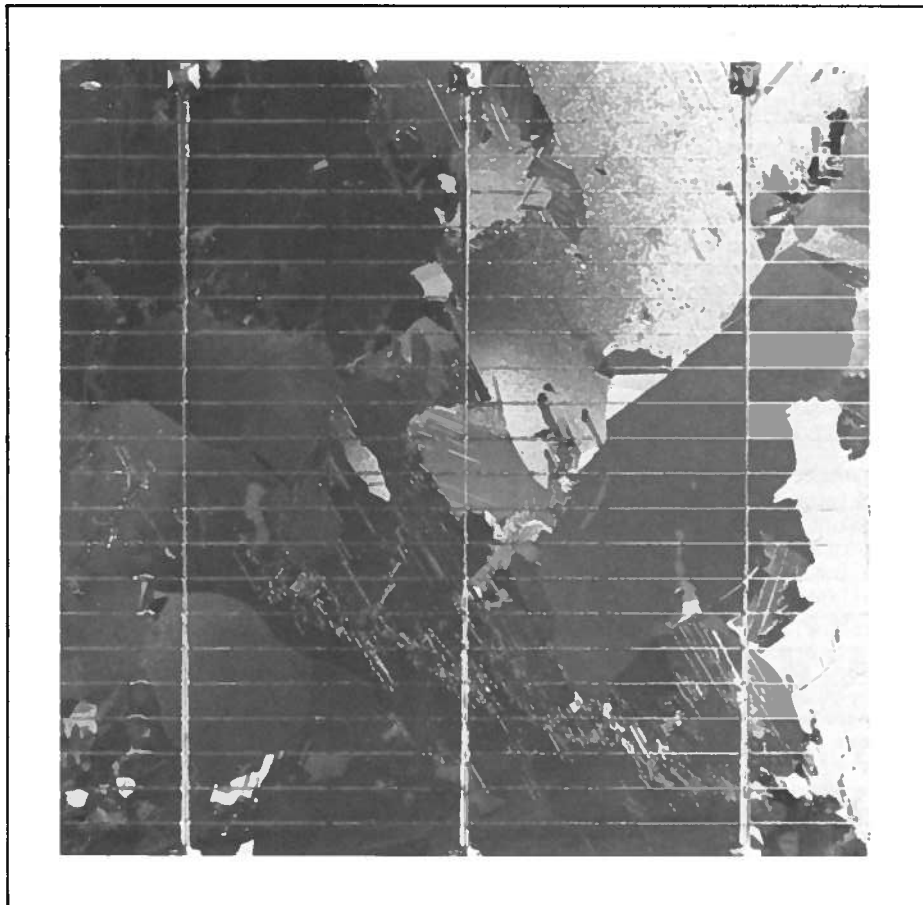
THE **CHESAPEAKE
CHEMIST**

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XXXVI

FEBRUARY, 1980

NUMBER 2



SOLAR CELL

EXECUTIVE COMMITTEE MINUTES

The Executive Committee of the Maryland Section, American Chemical Society, was called to order at 7:35 pm on Wednesday, November 28, 1979, at the Knott Science Center, Notre Dame College. The following members were present: Alvin Bober, R. L. Caret, Howard Cohen, Merle Eiss, Fred Gornick, Frances Hummel, Joyce Kaufman, Bob Kreps, James Leslie, Melvin Miller, Carl Minnier, Elwin Penski, Nolan Phillips, Charles Rowell and Sister Vincent. The minutes of the September meeting were published in the December issue of the *The Chesapeake Chemist*, which was distributed. The minutes were approved as read. The following reports were given:

Treasurer Mr. Penski distributed a report of the financial transactions of the Section from July 1 to November 1, 1979. The books are currently in the hands of the auditor. Inquiries have been made about the price of a four-drawer file cabinet for the archives. The price will be about \$90. It was moved, seconded and carried to authorize the purchase of such a cabinet, with a lock, at a price not to exceed \$100.

Congressional Science Council Dr. Gornick attended a meeting of the group on September 11, 1979. Christopher Dodd and the younger Senator from California spoke on the types of things that Congress would like to have us do. We should not be concerned about contacting members of Congress, but should work through staff members. Barbara Mikulski has requested that we watch for items which have environmental impact in Maryland; Mr. Sarbanes's staff has been contacted. If anyone wishes to communicate with items pertaining to ACS business, please send the report to Dr. Gornick. Dr. Kaufman announced that ACS does not wish its members to communicate directly with Congress on items of Society business.

Awards and National Nominations Dr. Kaufman mentioned that no one had ever been nominated for an award for service to the Section. She suggested that another award be established for this purpose, as well as an award for a distinguished educator. Our high school teaching award is a separate matter handled by the region; The Maryland award should therefore be for university and college chemistry level.

These proposed awards were discussed at some length. Dr. Kaufman then moved that the Maryland Section establish a Distinguished Service Award; nominations should be made by a committee, and the award made at a meeting; the award should be an inscribed scroll or plaque. Ms. Eiss seconded the motion, which was carried. Nominations should be requested in the spring; a deadline date should be set for each award. Ms. Eiss moved that the Chairman appoint a committee for this award, which can work out the details, for the year 1980-81. The motion was withdrawn, since the Chairman already has the authority to appoint committees. Dr. Kaufman also proposed that we establish an award for education, for universities, colleges and community colleges, to be established in the year 1981-82. We decided to table this suggestion until a future meeting.

Chemical Education and Safety Sister Vincent has had several requests from teachers that they be notified about Section meetings. Dr. Miller described the problems involved in sending out posters. The expense is too much for notices every month. It was suggested that the schedule be sent out once or twice a year. Mr. Penski suggested that the problem be evaluated economically. Dr. Sweeting moved that the schedule be sent to all of the schools and all of the counties every year in September; Mr. Caret seconded the motion. Dr. Kaufman then moved that the motion be recommitted, which was seconded by Mr. Bober and carried. The Chairman will appoint a committee to study this problem; the committee will make its recommendations to the Executive Board.

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THE CHESAPEAKE CHEMIST STAFF

Raymond C. Petersen.....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
Phone: (301) 321-3113

Eli Freedman.....Contributing Editor

Carl E. Minnier...Contributing Editor

Merle Eiss.....Business Manager
McCormick & Co., Inc.
Hunt Valley, MD 21031
Phone: (301) 667-7485

COMMITTEE CHAIRPEOPLE - 1980

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

Chemical Education....Sr. Mary Vincent
The College of Notre Dame of MD
435-0100

Program.....Elwin C. Penski
877-2923 or 671-3953

House.....Nolan Phillips
J. M. Huber Corp.
Havre de Grace, MD 21078
358-0159

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

Public Relations.....Robert L. Caret
Towson State University
321-2670

Membership.....Robert W. Kreps
412-B Hidden Brook Drive
Glen Burnie, MD 21061
760-9631

Publicity.....Richard H. Smith
Western Maryland College
848-7000 or 876-2055

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

Finance.....Alvin Bober
655-5254

SECTION OFFICERS

Melvin P. Miller.....Chairman
Department of Chemistry
Loyola College
Baltimore, MD 21210
(301) 323-1010

Elwin C. Penski.....Chairman-Elect
2515 Jerusalem Road
Joppa, MD 21085

Frances Hummel.....Secretary
Alcolac, Inc.
3440 Fairfield Road
Baltimore, MD 21226

Harold Klapper.....Treasurer
3616 Templer Road
Randallstown, MD 21133

MEMBERS-AT-LARGE

Donald Hoster Simon Courtade
Lou Sacchetti Sister Vincent
Maria Kirk

ALTERNATE COUNCILORS

Merle Eiss Alvin Bober
Robert L. Caret Clara Adams

COUNCILORS

Donald Jones..Western Maryland College
848-7000 ext 493 or 876-2055

David Roswell.....Loyola College
323-1010 ext 235

Charles Rowell.....U. S. Naval Academy
267-3302

Timothy Parr.....Westinghouse
747-4195

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to Raymond C. Petersen, 9329 Joey Drive, Ellicott City, Md. 21043. Send advertising copy and inquiries to Merle I. Eiss, 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.

WILLIAM H. AVERY

William H. Avery was born in Fort Collins, Colorado. He received an A.B. in chemistry from Pomona College in 1933 and a Ph.D. in physical chemistry from Harvard University in 1937, after which he served two years as a research assistant in infrared spectroscopy at Harvard.

From 1939 to 1943 he was employed as a chemist by the Shell Oil Co. in St. Louis and Houston, and from 1943 to 1947 he headed the propulsion division at the Allegany Ballistics Laboratory in Cumberland, Maryland. In 1946 and 1947 he was also a consultant in physics and chemistry to Arthur D. Little. In 1947 he joined the staff of The Johns Hopkins Applied Physics Laboratory.

Dr. Avery has specialized in chemical kinetics, rocket propellants, internal ballistics, ramjet propulsion, urban transportation and ocean energy systems. He has published approximately 70 technical papers and holds patents in infrared spectrometry, rockets, materials and urban transportation.

He serves or has served on many committees, including the Steering Committee of the Department of Defense Technical Panel on Ordnance, the Fire Research Committee of the National Academy of Sciences, the NASA Research Advisory Committee on Chemical Conversion Processes, the Committee on New Transportation Systems and Technology of the Highway Research Board, and the NSF-AEF Ad Hoc Panel on Ocean Thermal Energy.

Dr. Avery's memberships include Phi Beta Kappa and ACS. He has received the C. N. Hickman Award, a Presidential Certificate of Merit, a Navy Certificate of Commendation, a Naval Ordnance Development Award, and the Sir Alfred C. Egerton Gold Medal of the Combustion Institute.

OCEAN THERMAL ENERGY CONVERSION -- A NEW ENERGY RESOURCE FOR ALL REGIONS OF THE UNITED STATES

Ocean Thermal Energy Conversion or OTEC is a method of converting solar energy which is stored by the sun in the surface layers of the tropical oceans into electrical energy. The electrical energy that can potentially be generated in this way is many times larger than the projected total U.S. energy needs. OTEC energy can be delivered to all regions of the U.S. via an energy product which may be used to conserve fossil fuel or to generate electric power, or to the Gulf States via direct transmission of electric power, at costs that will be comparable with energy derived from coal or nuclear power. Since OTEC power will be inexhaustible and the environmental impact will be relatively minor, we believe OTEC development should be a priority National program.

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FEBRUARY MEETING

DATE:

Wednesday, February 13, 1980

PLACE:

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

SPEAKER AND TOPIC:

8:00 pm
Dr. William H. Avery
The Johns Hopkins University
Applied Physics Laboratory
"Ocean Thermal Energy Conversion"



It is not necessary to be a member of the American Chemical Society to attend the talk. There will be no dinner at the February meeting.

ENERGY

This month's meeting is the latest in a series dedicated to energy, a topic of intense and rapidly increasing interest. The Remsen lecture in May was concerned with the chemical storage of solar energy, and this month's talk deals with utilization of thermal energy derived from the ocean. We have not yet sponsored a discussion on solar photovoltaics, and that fact provides sufficient reason for this Editor to publish the cover photograph of a solar photovoltaic cell.

The cell pictured, a little larger than life size, was manufactured by the Solarex Corporation of Rockville using semi-crystalline silicon supplied by the Semix Corporation, a subsidiary of Solarex, and will deliver about one watt of electrical power when exposed to full sunlight.

MARYLAND SECTION FUTURE PROGRAM

<u>Date</u>	<u>Location</u>	<u>Speakers</u>	<u>Topic</u>
March 19	Towson State University	John Pavlik (Fisher Scientific)	Art, Science and Alchemy
		Jon B. Eklund (Smithsonian Inst.)	To Be Announced
April 16	McCormick & Co. Research Lab	Garry Rechnitz (U. of Delaware)	Bio-Selective Membrane Electrodes
		Joseph O. Jordan (Penn. State U.)	Thermometric Titrations and Enthalpometric Analysis
May	Johns Hopkins	Remsen Award	

COMMITTEE ON PROFESSIONAL RELATIONS PROVIDES HELP FOR MEMBERS

A recent member assistance case has been satisfactorily resolved in the form of an award to be received from the Office of Federal Workers Compensation (OFWC) by a member disabled as a result of occupational exposure to hazardous chemicals. The amount of the settlement is not known yet and, though the member received notification on June 8 that the claim had been granted, experience of others with OFWC indicates that actual processing of the settlement will take several months.

However, the outcome of this case is gratifying, since application for compensation was first made by the member in October 1976. The case was referred to ACS in August 1978, and assistance by the Committee on Professional Relations (CPR), through one of its consultants, began in September.

Unprofessional treatment, harassment, and delays were revealed by CPR's investigation into the matter. The member had been employed since 1956 as a research chemist at a military installation, and held a record of superior performance. In 1962, after transfer to a rehabilitated laboratory building, the member began to experience frequent and severe headaches and chronic respiratory infections. It was apparent that the hoods and ventilating system in the rehabilitated building were inadequate. Sinks were not trapped, nor was there a system for chemical disposal that eliminated vapors. However, the military installation declined to improve the ventilation, allegedly for "lack of funds". By 1974 all persons in the member's group had contracted leukemia, and either had retired or taken medical retirement.

Although the member's condition required hospitalization twice during 1972-1974, recovery was sufficient to enable continuing in a normal capacity until 1976. Then, after being restricted from further laboratory work, due to severe dermatitis and a new low white blood cell count, the member consulted a hematologist and learned that permanent blood and bone marrow damage due to exposure to toxic chemicals on the job had been incurred, and that resumption of former duties could prove fatal. Several months after officials at the military installation received the health report, the member was given the choice of medical retirement or termination. (No alternate jobs of non-laboratory character were offered, although it was confirmed that some supervisors had such jobs and had specifically asked for the member.) The member elected medical retirement at a substantial reduction in income.

Supportive evidence of two health hazards, leukemia and dermatitis, was submitted to OFWC in 1976 and 1977, but no action was taken. The member's congressman was able to elicit some communication from OFWC, but this only amounted to repeated requests for additional medical data. It appeared that, because no doctor had named a *specific* chemical as the cause of medical disability, OFWC refused to recognize the evidence given as cause.

Further information supported the view that the military installation was deliberately trying to cover up the issue and avoid responsibility. Therefore CPR, upon recommendation of the consultant, persuaded the member's attorney (retained since OFWC will not deal directly with an individual) to obtain a health report made by a military medical institution, in which it was stated that the member's deteriorating health was the result of exposure to toxic chemicals while working for the military installation in question. In April 1979 CPR's entire case report was forwarded to the member's congressman. He in turn forwarded the report to the Office of Workers' Compensation Programs of the Department of Labor and sent to the FDA for review the list of chemicals with which the member had worked. Shortly thereafter the congressman received word that the case would be reviewed by the Chief Medical Examiner. This review apparently accounted for the satisfactory disposition of the case. After receiving notification of the award, the member expressed appreciation to ACS for the assistance stating that "without such help the individual doesn't have much of a chance."

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Program Dr. Miller announced the following appointments: Mr. R. H. Smith, Jr. will send out fliers; Mr. R. L. Caret will be Public Relations Chairman; Dr. Clara Adams will work on the Education Committee.

The January talk will be "Across the Chasm - Perspectives of a Science Reporter", by J. D. Franklin of the Baltimore Evening Sun; the meeting will be held at Loyola College.

House and By-Laws Mr. Phillips gave the number of persons who attended dinners at the fall meetings: September - 70; October - 50; November - 62. Dr. Miller suggested that perhaps more short courses could be given for persons not interested in meetings.

Public Relations No report.

Membership Mr. Kreps described a new type of membership, open to persons who have made significant achievements in chemistry, but have no degree; they may be National Affiliates. The 1980 blanks are now available to those who wish them.

Publicity No report.

Remsen Lecture Dr. Kaufman announced that one of our Remsen Lecturers, Dr. H. C. Brown, won the Nobel Prize this year.

High School Activities Mr. Bober described the meeting in Annapolis last spring; attendance was excellent, and there was much enthusiasm. He recommends that we continue to have programs of this type, since it improves our image.

Student Awards Dr. Minnier is already getting calls on student award winners; Johns Hopkins has sent in its award winner. Dr. Minnier requested that names and pictures be supplied as soon as possible, in order to publish them in *The Chesapeake Chemist*.

The Chesapeake Chemist Dr. Petersen announced that *The Chesapeake Chemist* for December is in our hands, and will be in the mail by Friday. Ms. Eiss announced that the *Chemist* is solvent for the first time in many years. Advertising is paying for the eight pages, and the printer is less expensive.

Dr. Miller mentioned that the Washington Section has suggested a joint publication; since this would probably overshadow Baltimore, we do not favor it. National ACS has promised material for the *Chemist*, but rarely sends anything useful.

Councillors No report.

Old Business Dr. Sweeting announced that nominations are needed for the Young Scientist of the Year. Dr. Kaufman announced that the deadline for nominations for National Awards is March 1, 1980. Please send in your recommendations.

New Business Mr. Bober wishes to plan a budget for next year. Please send in your requests. Dr. Miller announced that the Executive Committee will meet on Wednesday, January 23, 1980.

The meeting was adjourned at 9:25 pm.

Respectfully submitted,

Frances C. Hummel, Secretary

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DR YALE HOWARD CAPLAN
8100 TAPSCOTT COURT
PIKESVILLE MD 21208

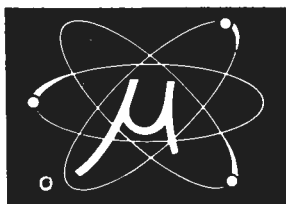
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