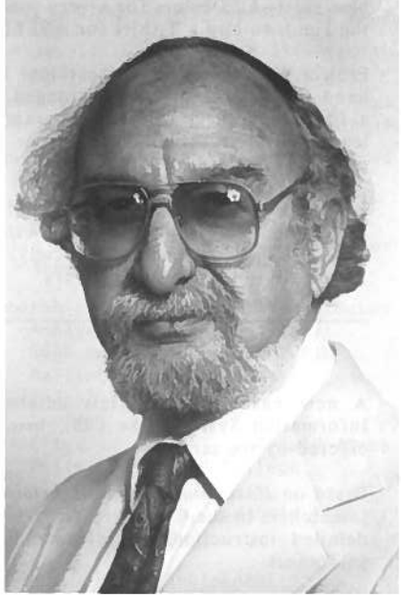
THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XLIV | OCTOBER, 1988 | NUMBER 7

WILLIAM MacCREHAN



SHELDON MARKOFSKY

ESSEX COMMIUNITY COLLEGE ROADSHOW

Professor Marvin J. Albinak, Chemistry Department Head, announces that Essex Community College will join the Younger Chemists Committee of ACS to sponsor a ROADSHOW on November 17.

The ROADSHOW features active chemists giving talks and conducting seminars on professional training, opportunities in chemistry and related fields, and career directions. Also presented is information on other important subjects, such as resume writing.

The seminars last one full day, including lunch and snacks, and have a very nominal registration fee. Essex Community College is conveniently located just north of Baltimore City, near the Beltway, I-95, and U.S. Routes 1 and 40.

Information will be distributed to all local colleges and universities, or Professor Albinak may be contacted by writing to the college at Baltimore, Maryland 21237 or calling (301) 522-1546. A message may be left with the chemistry department secretary at (301) 522-1508.

PROJECT SEED T-SHIRT, 20TH ANNIVERSARY EDITION

ACS Project SEED is celebrating its 20th anniversary and is spreading the good news with a special project SEED T-shirt. The motto "GROWING WITH PROJECT SEED 1968-1988" surrounds the SEED logo. Motto and logo are emblazoned in gold on a royal blue shirt--ACS colors for a very special ACS program. Each T-shirt purchased provides the funds to buy a T-shirt for a SEED student.

Project SEED--Summer Educational Experience for the Disadvantaged--offers a helping hand to economically disadvantaged high school students. SEED students participate in a 10-week summer research program in a nearby chemistry laboratory where they also learn about educational and career opportunities. All funds contributed to the SEED program go to student stipends.

Project SEED T-shirts are available in M, L, XL, and XXL for $10.00 ($5.00 tax deductible) each plus $1.00 for postage and handling, prepaid only, from ACS Project SEED, American Chemical Society, 1155 16th Street, N.W., Washington, D.C. 20036. Please allow 4 weeks for delivery.

HAZINF

A new hazardous materials database, HAZINF, is now available on the Chemical Information System (The CIS), bringing to three the number of HAZMAT databases offered by the service.

Based on *Hazardous Chemicals Information and Disposal Guide*, a handbook developed by researchers in the Chemistry Department at the University of Alberta, HAZINF contains detailed instructions on safe handling and disposal of 220 substances or classes of substances.

The new component complements the two other HAZMAT databases already on The CIS: OHM/TADS (from the U.S. Environmental Protection Agency, 1402 substances) and CHRIS (from the U.S. Coast Guard, 1016 substances).

Information on HAZINF or The CIS is available from CIS, 7215 York Road, Baltimore, Maryland 21212, (301) 321-8440.

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The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to the Editor. Send advertising copy and inquiries to the Business Manager. 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 MacCREHAN

William MacCrehan is currently a research chemist with the Center for Analytical Chemistry of the National Bureau of Standards. His work has focused on the development of novel separation and detection systems for the determination of organic analytes in complex matrices. He has pioneered the use of differential pulse, dual electrode and reductive electrochemical detection in liquid chromatography. Some of the analytical methods developed during his time at NBS include such varied analyte/matrix combinations as the organometal species methylmercury and tributyltin in fish and sediment, phenols in crude oil, nitro polynuclear aromatic compounds in diesel and air particulates and thiols in sediments.

Dr. MacCrehan attended Towson State University as an undergraduate and did his graduate work at the University of Maryland under the joint direction of Professor J. M. Bellama and Dr. R. A. Durst of NBS.

BIOGENIC THIOLS IN CHESAPEAKE BAY SEDIMENTS: LC SEPARATION, ELECTROCHEMICAL DETECTION AND THEIR IMPORTANCE TO TRACE METAL SPECIATION

Biogenic thiols, such as cysteine and 3-mercaptopropanoic acid, are naturally occuring compounds that influence the speciation of trace metal ions in marine sediment. It is well known that a dramatic increase in hydrogen sulfide occurs in bay sediments during the mid-summer months when the overlying water becomes anoxic. However, few measurements of the identity and distribution of organic thiols in such sediments have been made, limited primarily by the lack of selective and sensitive analytical methods for these compounds.

We have developed an approach for the separation of the free thiols using reverse-phase liquid chromatography with an ion-pairing agent. In addition, parameters for the electrochemical detection of the thiols at a gold-mercury thin-film electrode have been investigated for several thiols. An analytical method has been developed which combines careful sample collection and preparation, LC separation and electrochemical detection for the determination of the thiols in marine sediment porewaters.

Chesapeake Bay sediment cores were collected from a single site and analyzed over the period of June-December. The concentration information has been combined with the known stability constants to thermodynamically model the predicted concentration of trace metals based on equilibrium with the metal sulfide mineral phase.

SHELDON B. MARKOFSKY

Sheldon B. Markofsky is a Research Associate in the Organic Research Department at the Research Division of W. R. Grace & Co. in Columbia, Maryland. Dr. Markofsky received his bachelor's degree at Queens College in New York City, and his Ph.D. in 1962 at Purdue University, where his thesis was on nitroparaffins. From 1962-1972 he worked for the Organic Chemicals Division of W. R. Grace & Co. in Cambridge, Massachusetts. In 1972 he transferred to the Grace Research Division in Columbia, Maryland. He has worked on a variety of polymer projects, especially chemistry of water soluble polymers, and holds several patents in this area. Since 1980 his research has been concentrated on nitroparaffins. Dr. Markofsky is a resident of Olney, Maryland.

OCTOBER MEETING

DATE:

Wednesday, October 19, 1988

SCHEDULE:

5:30 William A. MacCrehan
National Bureau of Standards
"Biogenic Thiols in Chesapeake Bay Sediments: LC Separation, Electrochemical Detection and Their Importance to Trace Metal Speciation"

6:30 Social Hour - Building 1
Sponsored by W. R. Grace

7:30 Dinner - Building 1

8:30 Sheldon B. Markofsky
W. R. Grace & Company
"Some Novel Nitroparaffin Chemistry from an Industrial Point of View"

PLACE:

W. R. Grace Research Center
Rte 32 West of Rte 29
Clarksville, Maryland
Building 25, Room 137-39

Dinner price is $13.50 per person, but spouses, retired chemists and students may attend for $11.50.

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

Henry Freimuth
Department of Chemistry
Loyola College
Baltimore, MD 21210

by October 12. Late reservations may be made by calling

(301) 323-1010 x2236

by October 14.

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

DIRECTIONS TO THE MEETING:

From I-95 take Maryland 32 west for five miles. At second traffic light (flashing yellow after 6 p.m.) turn right into Grace driveway. After stopping at guardhouse, park in front of building 1 (first building on right) or on far side of building 25 (second building on right).

SOME NOVEL NITROPARAFFIN CHEMISTRY FROM AN INDUSTRIAL POINT OF VIEW

A greatly improved synthesis of nitromethane from methyl chloride and sodium nitrite was developed. Attempts to extend this technology to longer chain nitroparaffins, from the corresponding alkyl halides, led to alkyl isocyanates, which arose from nitrolic acid and nitrile oxide precursors. These intermediates also yield furoxans, or together with olefins or acetylenes, afford isoxazolines and isoxazoles. Furthermore, methyl ketones and N_2O_4, which give rise to a nitrolic acid, can also be employed, together with olefins, to synthesize 3-acyl isoxazolines and isoxazoles. Other novel preparations of isoxazolines will also be illustrated.

We also prepared methyl isocyanate, in high selectivities, from the vapor phase dehydration of nitroethane over calcined silica.

Finally, the nitroethane based synthesis of an anti-malarial drug intermediate, 4-amino-1-diethylaminopentane, will be discussed.

IN MEMORIAM - GRANT CAMPBELL EDWARDS

Grant Campbell Edwards of Silver Spring, a senior research chemist with the Davison Division of W. R. Grace & Co. in Columbia, died of cancer on May 11. He was 52 years old.

For the past ten years Mr. Edwards was responsible for arranging the Maryland Section ACS meeting held in the fall at Grace's Washington Research Center. A member of the Chemical Society of Washington, he initiated the first meeting, held at Grace in October of 1978, as a joint meeting of that Section and ours.

Born in Washington, Grant Edwards graduated from Anacostia High School in 1953. He received his bachelor's and master's degrees from George Washington University. From 1957 to 1967 he worked for Harris Laboratories, Inc. in Washington, now part of Gillette Research Institute in Rockville.

Mr. Edwards joined W. R. Grace in 1967, where his research involved the synthesis of zeolite cracking catalysts. He holds seven U.S. patents and has several publications in the area.

A mineral collector throughout his life, Mr. Edwards was a longtime member of the District of Columbia Mineralogical Society and had served as its president.

Mr. Edwards is survived by his wife Barbara and his son Thomas, an engineering student at The Johns Hopkins University.

FUTURE MEETINGS 1988-1989

DATE AND LOCATION	*SPEAKER AND AFFILIATION*	*TOPIC*
November 16, 1988 Aberdeen Proving Grounds	(Speaker and Topic To be announced)	
December 14, 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

PATTERSON-CRANE AWARD NOMINATIONS

Nominees for the 1989 Patterson-Crane Award are being sought by the Dayton and Columbus, Ohio, Sections of the American Chemical Society. The biennial award, consisting of a $2000 honorarium and a personalized commendation, is given in honor of Austin M. Patterson and E. J. Crane, previous editors of Chemical Abstracts.

An international honor, the Patterson-Crane Award acknowledges contributions to the field of chemical literature, especially chemistry documentation, chemical information storage and retrieval, and implementation and management of chemical information services.

Nominations for the award must be in writing and should discuss the nominee's contributions to the field as well as include supporting material and an evaluation of the nominee's accomplishments. Seconding letters are required.

Send one copy of the nomination materials to The Patterson-Crane Award Committee, Margaret Roach, Chairman, Wright State University Library, Dayton, Ohio 45435, for receipt by January 31, 1989. To receive an informative brochure about the award, contact M. Roach.

Nominations will be judged by a seven-member selection committee consisting of Dayton and Columbus Section members as well as the Chairman of the American Chemical Society's Division of Chemical Information.

The 1989 Patterson-Crane Award will be presented on May 16, 1989, at an awards dinner held at the Engineers Club of Dayton, 110 Monument Ave., Dayton, Ohio.

DR. MARY GOOD HEADS NATIONAL SCIENCE BOARD

Dr. Mary Good, ACS President in 1987, has been elected Chairman of the National Science Foundation's National Science Board. The 24-member board sets policies for the NSF so that the latter may carry out its statutory role. NSF is an Executive Branch agency, and Board members serve on a part-time basis for terms of six years. The Board is the only Federal body that has responsibility for the overall health of fundamental research in the U.S.

This is Dr. Good's second term as a Board member; she originally was appointed by President Reagan in 1980 and again in 1986. The chairman, elected by the Board, serves for two years. Dr. Good is President of Engineered Materials Research, Allied Signal Corporation, and Senior Vice President for technology at Allied-Signal.

ELECTION OF OFFICERS

Please complete the following ballot for the election of the 1989 officers, councilor and members-at-large of the Maryland Section and mail it to Kris Kirk, 4000 Mayberry Avenue, Baltimore, MD 21206. Please sign the envelope, but not the ballot itself, so that membership can be verified.

Chairman-elect	J. Paul Carter	_____
Secretary	Stephen M. Gregory	_____
Treasurer	Joseph J. DeFrank	_____
Alternate Councilor	Ann Abeles	_____
Members-at-large	Donald Hoster	_____
(vote for five)	Hope L. Bober	_____
	Bhim S. Dhingra	_____
	Dale L. Whalen	_____
	Jeanette S. Hamilton	_____