



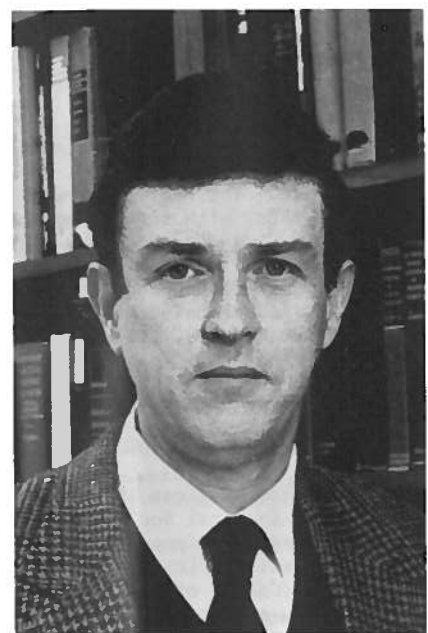
# THE CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XLV

MARCH, 1989

NUMBER 3



RICHARD H. SMITH, JR.



JOHN A. JOULE

## NOMINATING COMMITTEE

Bill White has announced the appointment of the following members to the Nominating Committee: Merle Eiss (McCormick), Harold Klapper (CRDEC), Ernest Silversmith (Morgan State), Greg Erickson (Nova) and Howard Cohen (SCM).

Committee members will be pleased to receive suggestions for nominees. The election is scheduled for October for persons to assume office on January 1, 1990.

### GRANT SOURCES AVAILABLE AT ACS

Are you looking for federal funding to explore a research idea? Do you need to know who funds research in your area of interest? The American Chemical Society (ACS) can help. The Department of Government Relations and Science Policy maintains an electronic bulletin board guide to grants and contracts in the chemical sciences and engineering, for access by ACS members.

The bulletin board is called ChemREFS, which stands for Chemical Research and Education Funding Sources. All you need to access ChemREFS is a computer, modem, and telephone--and best of all, access is free. You only pay for long distance charges you may incur.

Once online, you'll find over 250 files describing chemical research and education programs at a variety of federal agencies, each with its own directory. Among those represented are: Department of Agriculture, Environmental Protection Agency, National Institutes of Health, and National Science Foundation.

Area-specific and targeted programs, such as instrumentation funding, young investigator programs, and women and minority programs, are described in their own directories.

Two special features of ChemREFS are News and New Programs. The News category carries bi-weekly coverage of science policy issues, the federal budget, and changes in grant and contract procedures or guidelines. The New Programs area highlights the newest federal programs and selected RFPs, with short submission deadlines.

All files can be downloaded to the user's system. Users can contact the ACS System Operator by electronic mail or by telephone. ACS members interested in obtaining a user manual should contact Ms. Trudy J. Rodgers, Office of Science Policy Analysis, Government Relations and Science Policy, 1155 Sixteenth Street, N.W., Washington, D.C. 20036, (202) 452-2127.

### ROBERT H. MARKS NAMED PUBLICATIONS DIRECTOR

Robert H. Marks, formerly Director of Publishing at the American Institute of Physics (AIP), was named Director of the American Chemical Society's newly created Publications Division on May 2. He will be responsible for directing the publication of the Society's existing scientific journals, the weekly newsmagazine *Chemical & Engineering News (C&EN)*, other periodicals, and books; conceiving and developing new publications dealing with the science and profession of chemistry and allied fields; and coordinating the activities of Centcom, Ltd. (the ACS's advertising management company) with those of the Publications Division.

At AIP, he directed the publication of twenty technical journals, nine magazines, and a books program consisting of approximately twenty new titles per year. In the past few years, he was responsible for a significant expansion of AIP's book publishing activities, and for the introduction of a new advertising-based magazine called *Computers in Physics*.



# THE CHESAPEAKE CHEMIST

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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.

## JOHN ARTHUR JOULE

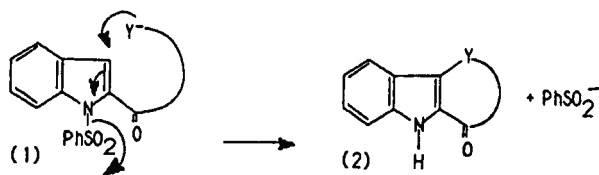
John Arthur Joule, B.Sc., M.Sc., Ph.D., C.Chem., F.R.S.C., received all of his degrees from the University of Manchester, England, where he has since served as Lecturer (1963-72), Senior Lecturer (1972-83) and Reader (1983- ). He did post-doctoral work with Richard K. Hill at Princeton and with Carl Djerassi at Stanford.

Dr. Joule is currently visiting the University of Maryland, Baltimore County, where he is teaching a graduate course on heterocyclic chemistry and heterocyclic synthesis. He has previously held visiting appointments at the University of Ibadan, Nigeria (1965) and at The Johns Hopkins Medical School (1972).

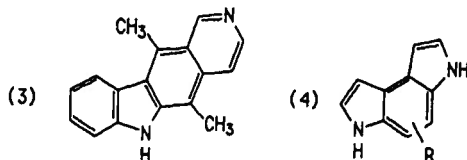
His research interests lie in the field of heterocyclic chemistry, including novel methods of heterocyclic synthesis, synthesis of naturally occurring nitrogen-containing heterocycles, heterocyclic photochemistry and synthesis of electrically conducting heterocyclic polymers. He has approximately 80 publications in the field, including a number of review articles and one textbook on heterocyclic chemistry.

### SYNTHETIC APPROACHES TO NITROGENOUS MARINE AND MICROBIAL NATURAL PRODUCTS

The first part of the lecture will describe the process of intramolecular nucleophilic substitution of indoles and related heterocycles, as summarized by (1)  $\Rightarrow$  (2). The use of such processes for the construction of poly-heterocyclic systems and for the synthesis of the alkaloid ellipticine, (3), and analogues, will be discussed.



The second part of the lecture will describe an approach developed at Manchester to the benzo[1,2-b:4,3-b']dipyrrole nucleus (4) present in the metabolite C-1065.



### RICHARD H. SMITH, Jr.

Dr. Richard H. Smith, Jr. received his B.S. in chemistry from Washington College in Chestertown, Maryland in 1966. He earned a Ph.D. in organic chemistry from the University of Virginia in 1970 where he was an NDEA Title II Fellow and worked under the direction of Dr. Richard J. Sundberg. He then spent a year in post-doctoral studies with Dr. Paul G. Gassman at the Ohio State University. In 1971 Dr. Smith joined the faculty of Western Maryland College where he now holds the rank of professor of chemistry.

During a sabbatical in 1978-79, Dr. Smith worked with Dr. James E. Oliver at the Pesticide Degradation Laboratory, USDA-Beltsville Agricultural Research Center. Since 1980, Dr. Smith has spent his summers in research with Dr. Christopher J. Michejda at the NCI-Frederick Cancer Research Laboratories. While on a sabbatical at that location in 1984-85, he was an NIH-NRSA Senior Fellow.

Dr. Smith's research involves the study of the chemical and biological properties of dialkyltriazenes especially as these relate to the problem of cancer. He has received grants in support of this research at Western Maryland College from the Research Corporation, the Petroleum Research Fund, and the National Science Foundation.

## MARCH MEETING

### DATE:

Wednesday, March 29, 1989

### PLACE:

University of Maryland  
Baltimore County  
Faculty/Staff Dining Area

### SCHEDULE:

- 5:30 Richard H. Smith, Jr.  
Western Maryland College  
"1,3-Dialkyltriazenes:  
A New Class of Biological  
Alkylating Agents"
- 6:30 Social Hour - sponsored by  
Nicolet Instrument Corp.
- 7:30 Dinner
- 8:30 John A. Joule  
University of Manchester  
"Synthetic Approaches to  
Nitrogenous Marine &  
Microbial Natural Products"

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

Ms. Julia Pearson  
Nova Pharmaceutical Corp.  
6200 Freeport Center  
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by March 22. Late reservations may be made by calling

(301) 563-6183

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

by March 24. An answering machine is available at this number for your convenience.

### FUTURE MEETINGS

Next month's meeting, Tuesday, April 18, at Western Maryland College will feature Jay Tobin of the Maryland State Police Lab speaking on "Forensic Chemistry". It will also be Student Award Night.

The Remsen Award meeting will be May 17 at The Johns Hopkins University.

When did YOU  
last attend a Maryland Section meeting?

### 1,3-DIALKYLTRIAZENES: A NEW CLASS OF BIOLOGICAL ALKYLATING AGENTS

1,3-Dialkyltriazenes are a simple, direct source of alkyl diazonium ions, a chemical species which plays an important role in both carcinogenesis and cancer chemotherapy.

Mechanistic studies reveal that dialkyltriazenes decompose in aqueous solutions by a specific acid catalyzed process. When the two alkyl groups are nonidentical, these triazenes exist in two tautomeric forms whose overall rate of decomposition and product distribution can be understood in terms of the Curtin-Hammett principle.

The addition of a 3-acyl substituent greatly increases the stability of dialkyltriazenes and results in a class of compounds which show promising chemotherapeutic properties, both *in vitro* and *in vivo*. These properties are believed due to DNA alkylation.

The introduction of a 2-chloroethyl group gives a new class of triazenes having the added capability of crosslinking DNA. Not unexpectedly, triazenes of this class have even higher levels of anti-tumor activity than those with only simple alkylating ability.

THE JOHNS HOPKINS UNIVERSITY  
Chemistry Department Colloquium Schedule

Colloquia are held at 4:15 pm in Remsen Hall Room 221 on the Homewood Campus of the Johns Hopkins University. For more information call Mrs. M. Hill at (301) 338-7423.

Day and Date	Speaker and Affiliation	Topic
Tuesday March 14, 1989	June S. Taylor Fox Chase Cancer Center	Localized NMR Spectroscopy <i>in vivo</i>
Tuesday March 28, 1989	David A. Evans Harvard University	Studies in Asymmetric Synthesis (Nova Lecture)
Tuesday April 4, 1989	Ken S. Feldmen Pennsylvania State University	Template Mediated Oligoselective Polymerizations
Tuesday April 11, 1989	John C. Vederas University of Alberta	To Be Announced
Tuesday April 18, 1989	Craig A. Townsend The Johns Hopkins University	Twelve Years Out Looking Back, Looking Ahead
Tuesday April 25, 1989	Walter D. Knight University of California at Berkeley	To Be Announced
Tuesday May 2, 1989	Irena Bronstein Quest Systems, Inc.	1,2-Dioxetanes: Novel Chemilumin- escent Enzyme Substrates

WOMEN CHEMISTS' COMMITTEE

In April 1987 a steering committee was formed to start a Maryland Women Chemists' Committee. The steering committee selected three projects - 1) assembling a list of summer intern positions available in Maryland; 2) establishing a CV file for those seeking employment; 3) setting up a speakers' bureau to serve high schools and colleges in the state. An organizational meeting was held on January 6, 1988 and additional meetings were held in conjunction with the March and September Section meetings. Attendance at these meetings was discouraging. The next meeting will be held in April, and this will probably be the last chance for Maryland's Women Chemists to show their interest.

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GRADY-STACK AWARD

A luncheon honoring the winner of the 1989 ACS Grady-Stack Award for Interpreting Chemistry for the Public will be held on Tuesday, April 11, during the national meeting in Dallas. It is set for the Tower Club, 1601 Elm St., 48th floor, from noon to 2 p.m. Tickets are \$22.

This year's winner is Robert Kanigel, a free-lance writer based in Baltimore. He is cited for his extensive writings on scientific subjects that have appeared in such publications as the *New York Times Magazine*, *Science* 85, *Hippocrates*, *Psychology Today*, *Technology Illustrated*, and *Mosaic*. He also has been contributing editor at *Johns Hopkins Magazine* since 1977 and writes a monthly review column for the *Baltimore Evening Sun*. A book, *Apprentice to Genius: The Making of a Scientific Dynasty*, was an alternate selection of the Library of Science Book Club.

NEW CHEMICAL SOCIETY JOURNAL ON MATERIALS

*Chemistry of Materials* is the title of a new bimonthly American Chemical Society journal that began publication in January 1989. The editor is Prof. Leonard V. Interrante of Rensselaer Polytechnic Institute.

The new journal publishes original contributions on fundamental research, from a molecular-level perspective, at the interface of chemistry, chemical engineering, and materials science. Featured will be papers in three main areas: synthesis and investigation of molecular and nonmolecular solid state materials; investigation of polymeric solids and thin films, and preparation and processing of electronic or optical materials and devices. A year's subscription is \$49 for ACS members and \$299 for nonmembers, including libraries.

NATIONAL RESEARCH DAY

The National Science Foundation has designated the week of April 23-29, 1989 as National Science and Technology Week.

At the same time, Sigma Xi is encouraging its chapters and clubs to designate one day in that week as National Research Day and to celebrate that day by sponsoring activities to encourage scientific research in their schools and communities.

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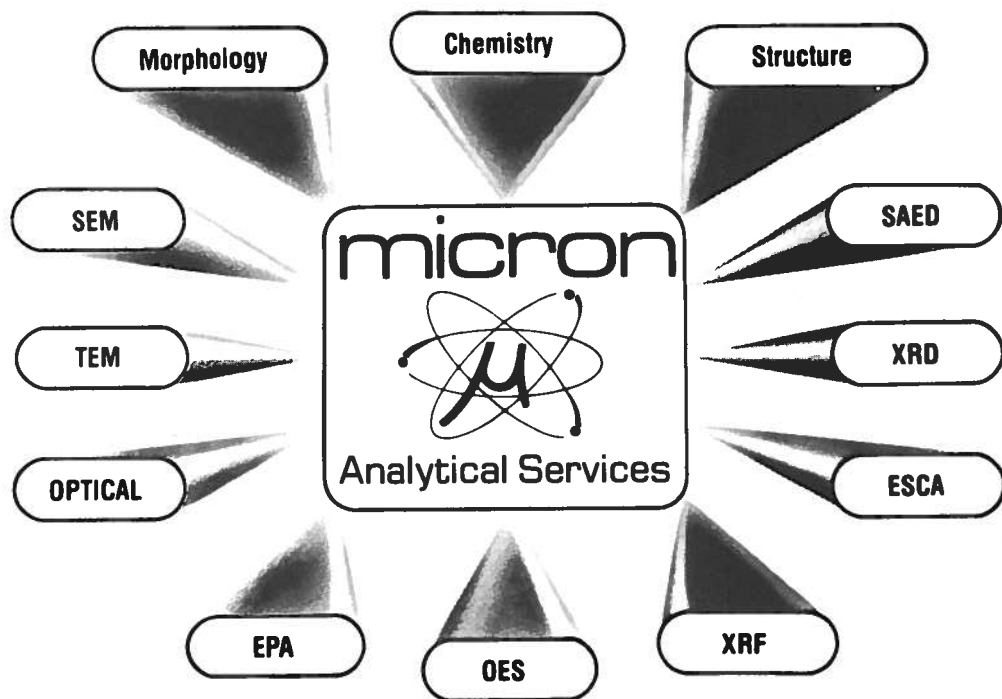
Dr. Edward J. Poziomek has resigned as Executive Director of Sigma Xi, a position he had assumed just last year. In resigning, he expressed a desire to return to a career more closely related to his research interests in chemistry.

Dr. Poziomek was the Maryland Chemist of the Year in 1988, following many years of service at the Aberdeen Proving Ground. From 1981 to 1988 he was Director of Research of the Chemical Research, Development and Engineering Center at Aberdeen. The award was presented in December and Dr. Poziomek addressed the Section at that time.

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