



THE

# CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XXXVI

MARCH, 1980

NUMBER 3

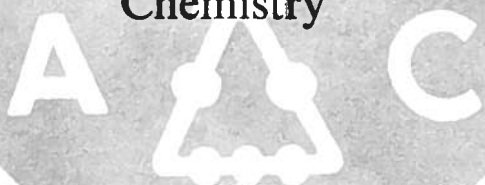
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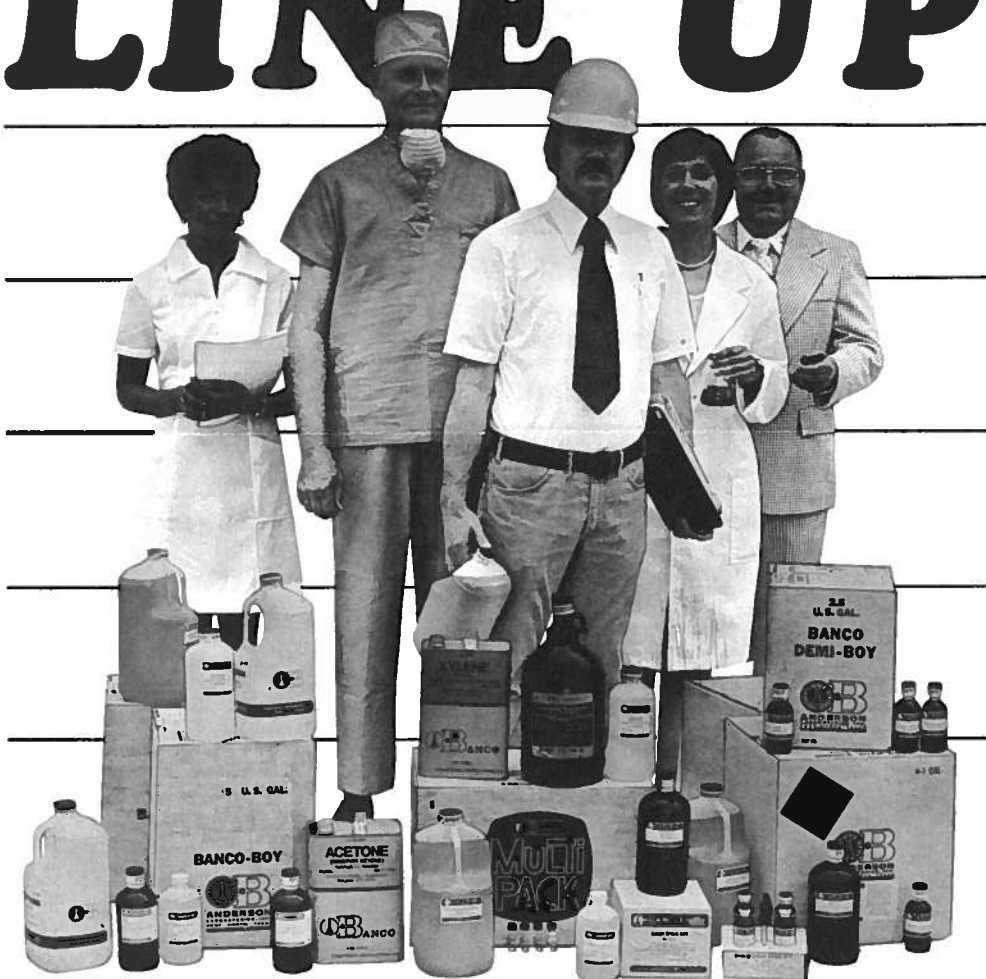


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*STUDENT AWARDS MEETING*

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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 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.

Dr. Brill, Professor of Chemistry at the University of Delaware, was born in Tennessee. His B.S. degree in Chemistry was earned with high honors from the University of Montana in 1966. He received the Ph.D. degree in Inorganic Chemistry in 1970 from the University of Minnesota and joined the Delaware faculty that same year. He was the recipient of a wide variety of awards and fellowships as a student.

He has been deeply involved in American Chemical Society activities, chairing the Inorganic Division for the 10th and 14th MARMs, and the General Scientific Program for the 11th MARM and serving on the MARM steering committee for 1978-79. As a member of the Subcommittee on the ACS General Chemistry Exam, he played a major role in developing the 1975 and 1977 exams, and he served as the Middle Atlantic Regional representative to the Division of Inorganic Chemistry 1977-79.

Dr. Brill's research interests revolve around spectroscopy, particularly nuclear quadrupole resonance and Laser Raman, as applied to inorganic and organometallic chemistry, with this work resulting in 57 research publications. He teaches General Chemistry, Inorganic Chemistry, Physical Methods in Inorganic Chemistry, and Structure and Properties of Art Materials on a regular basis.

His interest in solid materials has led him into thermal decomposition studies and to the application of spectroscopy and chemistry to the examination of works of art. This latter interest will soon be presented in a book *Light: Its Interaction with Art and Antiquities*, to be published by Plenum Press in 1980.

#### CHEMICAL METHODS IN THE STUDY OF ART MATERIALS

The techniques of analytical chemistry have proven to be a valuable tool in virtually every field where the nature of materials has importance. Art and historical objects clearly fall into this category, and as a result chemistry is now having a considerable impact on museum studies.

In this talk a brief overview of some important analytical techniques will be presented as they have been applied to historical problems. Examples will be drawn primarily from problems in American art and history.

#### JON B. EKLUND

Dr. Jon B. Eklund, 44, is curator of chemistry at the Smithsonian Institution's National Museum of History & Technology in Washington, D. C. During his 12 years at the museum, he has organized exhibits on such topics as water sources and distribution, John Wesley Hyatt and celluloid, Bakeloid and Bakelite, and commercial scales in the U. S. After receiving a B.S. degree from Yale University in biophysics, Eklund taught chemistry and physics for three years at the Choate School in Connecticut. He then earned an M.A. degree in physics at Wesleyan University, Middletown, Conn., and a Ph.D. degree in history of science and medicine at Yale. His major research interests are in 18th century chemistry before the chemical revolution, the history of materials, and chemical instrumentation in the 20th century, with particular emphasis on spectrophotometry.

cont. on p. 6

## MARCH MEETING

#### DATE:

Wednesday, March 19, 1980

#### PLACE:

The Lecture Hall  
Towson State University

#### SPEAKERS & TOPICS:

5:30 pm  
Thomas B. Brill  
University of Delaware  
*Chemical Methods in the Study of Art Materials*

8:30 pm  
Student Awards

9:00 pm  
Jon B. Eklund  
Smithsonian Institution  
*The Artisan and the Chemist: Some Little-Known Episodes in the History of Chemistry*



JON B. EKLUND

#### COCKTAILS & DINNER:

University Union, Third Floor  
Towson State University

Cocktails 6:30 - 7:00 pm  
Dinner 7:00 - 8:15 pm

Hot dinner: (choice of fish or chicken), \$8.00 per person *except* spouses, retired chemists and students may attend the dinner for \$6.00.

Reservations should be made by sending checks to:

Robert L. Caret  
Towson State University

or by calling

321-2670

before March 14, 1980

Map on page 7



THOMAS B. BRILL

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

...cont. from p 4

He has taught courses at Wesleyan, University of Maryland and the Cooperstown Graduate Program in Conservation of Historic and Artistic Works. Recent papers include "Of a Spirit in the Water: Some Early Ideas on the Aerial Dimensions"; "From the Artizan's Hand"; and "E. I. duPont and the American Gunpowder Trade." Dr. Eklund is the author of the monograph, *The Incomplete Chemist, an Essay on the Eighteenth Century Chemist in His Laboratory*.

#### THE ARTISAN AND THE CHEMIST: SOME LITTLE-KNOWN EPISODES IN THE HISTORY OF CHEMISTRY

In some respects the objects of our everyday existence have been neglected by science until relatively recent times. Emphasis in the nineteenth and early twentieth centuries was on the structure of the very big (astronomy and cosmology) or the very small (atoms and molecules). With the development of materials science in the twentieth century, this has changed. But prior to this development, much of our knowledge of the major properties of matter--and our ability to exploit them--can be traced to the artist and artisan.

Drawing upon examples from art objects in metal, ceramics and glass, the role of the artist in adding to our understanding of the nature of matter at intermediate levels of structure will be discussed.

#### MARYLAND SECTION STUDENT AWARDS

Nelson Bryner  
Frederick Community College

Jeffrey G. Charikofsky  
Towson State University

Isabel Ann Conley  
College of Notre Dame

Pamela Cabbage  
Howard Community College

Brian K. Flowers  
University of Maryland,  
Baltimore County

John D. Foreman  
Western Maryland College

Philip H. Keiser  
Morgan State University

David Levy  
Loyola College

Mark McCormick  
U.S. Naval Academy

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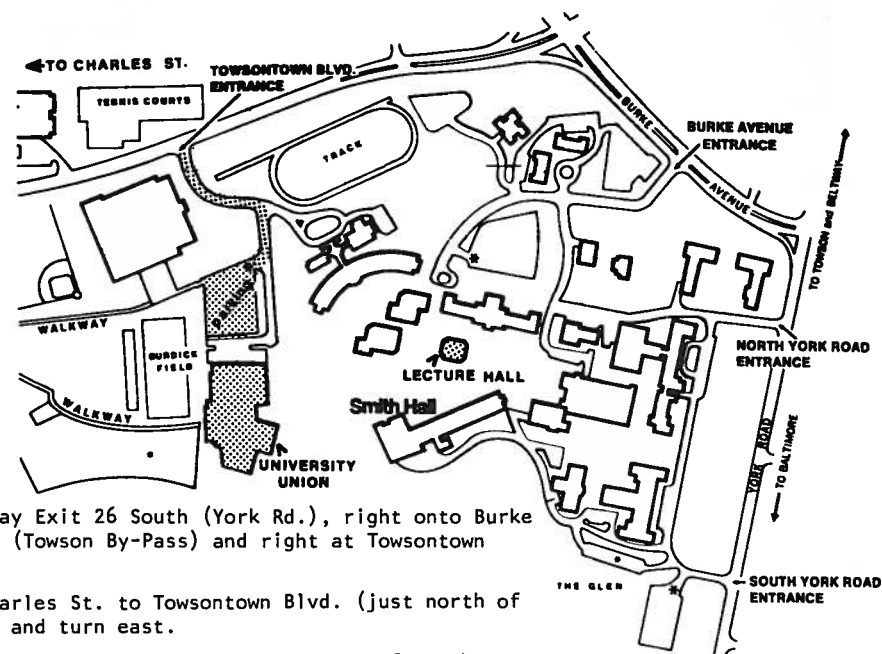
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or Charles St. to Towsontown Blvd. (just north of GBMC) and turn east.

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#### ACS MARCH COUNCIL MEETING

At the ACS National Meeting in Houston in March, the Society's Council will be considering several petitions to amend the Constitution and Bylaws. The petitions are summarized below; please pass on comments to one of your councilors whose phone numbers are given on page 3.

1. *Balancing Geographic Regions* [Bylaw V, Sec. 3 (a)] Raise the allowable population differential among the six electoral regions from 5% to 10%, to reduce the need for redistricting caused by member mobility.
2. *Waiver of Initial Membership Dues for Student Affiliates* [Bylaw I, Sec. 4] No cost to Student Affiliates applying for membership from July 1 through the year's end.
3. *Allotment of Funds to Divisions* [Constitution Article XIV, Sec. 3, New Bylaw VIII, Sec. 6] Divisions would receive a base and per member allotment plus additional funds for national meetings.
4. *Funds Apportionment to Local Sections* [Bylaw VII, Sec. 8] Base allotment scaled as are national dues.
5. *Yearly Allotments to Local Sections* [Bylaw VII, Sec. 8 (b)] Per member allotment scaled as are national dues.
6. *Designation of Immediate Past President as an Officer of the Society* [Constitution Article VI, Sec. 1, 2 (a), and 3 (a)]
7. *Change in Method for Calculating the Dues* [Bylaw X, Sec. 3 (a)] Escalator would use previous year's dues as a base.
8. *Privileges of Affiliates* [Bylaw II, Sec. 2, 4, & 5] Allow affiliates (not ACS members) to vote for Division and Local Section Officers (and on other matters).
9. *Membership Application Procedures* [Bylaw I, Sec. 3 (d)] Elimination of requirement of nomination by two members.

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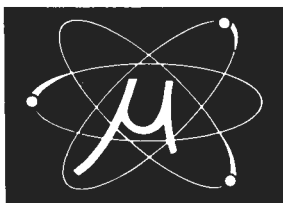
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- ☐ **Electron Probe X-Ray Microanalysis**  
Qualitative and quantitative elemental (>Be) microanalysis
- ☐ **Electron Spectroscopy for Chemical Analysis**  
Analysis of thin (25-50A) surface films
- ☐ **Optical Emission Spectroscopy**  
Semi quantitative and quantitative analysis of trace elements
- ☐ **X-Ray and Electron Diffraction**  
Identification of crystalline compounds
- ☐ **X-Ray Fluorescence**
- ☐ **Micro-Hardness Testing (KNH & DPH)**
- ☐ **Differential Scanning Calorimetry**  
Melting points, heats of fusion, crystallinity



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