



THE

# CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

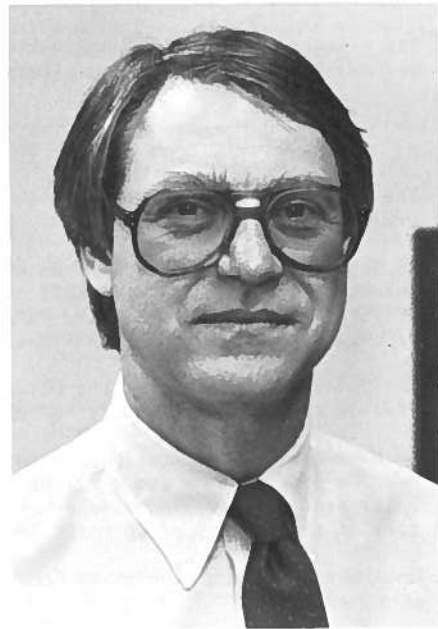
VOL. XLI

SEPTEMBER, 1985

NUMBER 6



TIMOTHY J. MCNEESE



JOHN C. PAVLIK

## WELCOME BACK

The new meeting season begins this month with the program under the direction of Tom Bitterwolf. As in recent past years, the September meeting will be at the W. R. Grace Research Center and will feature three lectures.

The Grace Research Center is located on Route 32 south of Columbia. Route 32 is in the process of relocation and renovation, hence there are likely to be some detours. We trust they will not make the trip too difficult.

### MARYLAND WINNERS AT ISEF

Each year the ACS participates in the International Science and Engineering Fair by sponsoring four awards and six honorable mentions in the special awards category. The 36th Fair was held this year in Shreveport, Louisiana, May 12-18, and members of the Louisiana Section represented the ACS in selecting the ten students for recognition in chemistry. More than 600 students - winners from each of the more than 300 affiliated regional science fairs - competed in the ISEF.

This year, Mr. Sandip Biswal, from Randallstown High School, was selected for the ACS Third Place Award, and Mr. Mark Wood, from Walkersville High School, received one of the ACS Honorable Mention Awards. Mr. Biswal's teacher was Mr. Theodore Schorr, while Mr. Wood's teacher was Mr. Brad Yohe.

The third place winner received a cash award, a plaque and a subscription to *Chem Matters*, while the honorable mention winner received a certificate and a subscription to *Chem Matters*. Both teachers and schools received certificates of recognition.

The winners and their teachers will be invited to attend the Section's September meeting where their accomplishments will be recognized.

### SOCIETY OF COSMETIC CHEMISTS

The Mid-Atlantic Chapter of the Society of Cosmetic Chemists, Jeanne Taborsky-Urdinola, Publicity Chairperson, has announced its meeting schedule for 1985.

On September 10 there will be an education session on instrumental analysis of cosmetics conducted by the staff of the Gillette Research Institute at the Institute followed by an evening session at the Ramada Inn in Rockville at which Dr. Nigra will speak on "Minoxidil and Hair Growth."

The October 8 meeting, at the Columbia Inn in Columbia, will feature Ms. Gail Cville speaking on "Sensory Perception."

On November 12 an education session on a preservation system for cosmetics will be conducted by Steve Miller of the Noxell Corporation at Carson's Inn in Baltimore. The evening speaker will be area director William Hanley on "History of the Society of Cosmetic Chemists - Long Range Planning."

Chairperson of the Chapter is Ronald J. Gutowski of Noxell, (301) 628-4609.

### SOCIAL HOUR HOSTS

The Maryland Section expresses its sincere appreciation to VWR Scientific and Fisher Scientific for their hospitality at our March and May meetings. Mr. Norman Benton of VWR hosted the social hour at the March 20 meeting while Mr. Lou Sacchetti of Fisher did the honors May 13.



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#### MEMBERS-AT-LARGE

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Sr. Denise Eby

#### ALTERNATE COUNCILORS

Robert L. Caret Alvin Bober  
Tim McNeese Mike Zapf

*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.

Dear Colleagues:

I would like to ask your help in planning future activities for the Maryland Section. I would appreciate it if you would be kind enough to write to me and express your ideas and opinions on a few matters.

First, do you like the programs that we have presented in recent years? Do you prefer programs of a technical nature or those of more general interest? What speakers would you like us to invite? Would you like to be a speaker at one of our meetings? Do you have any comments on the conduct of the monthly meetings: location, food, sound, visual or anything else?

Next, as chairman, I receive requests for nominations for awards in several areas of chemistry. There are many awards sponsored or administered by the ACS. The Maryland Section sponsors the Maryland Chemist Award and the Remsen Award. If you know of outstanding chemists who should be recognized, please submit their names for consideration. They may be employed in industry, government, academia or be self employed.

Would you attend courses presented on video tape? The cost would depend upon the number of students and classes, but would probably be about \$200.

Lastly, is there anything that your Section can do for its members that we are not doing now? Do you wish to help with your Section's activities? Our next Executive Committee meeting is September 4 at the Knott Science Center of the College of Notre Dame. The meeting will be at 7:30 pm in the library on the second floor. Members are always welcome to attend the Executive Committee meetings and the Committee would be glad to see you.

Sincerely,  
Harold Klapper, Chairman

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DREYFUS REGIONAL CONFERENCE  
September 28, 1985  
University of Maryland, College Park

High School Chemistry Teachers are invited to participate in a day of workshops, demonstrations and laboratory exercises sponsored by the Camille and Henry Dreyfus Institute and funded by the Woodrow Wilson Foundation.

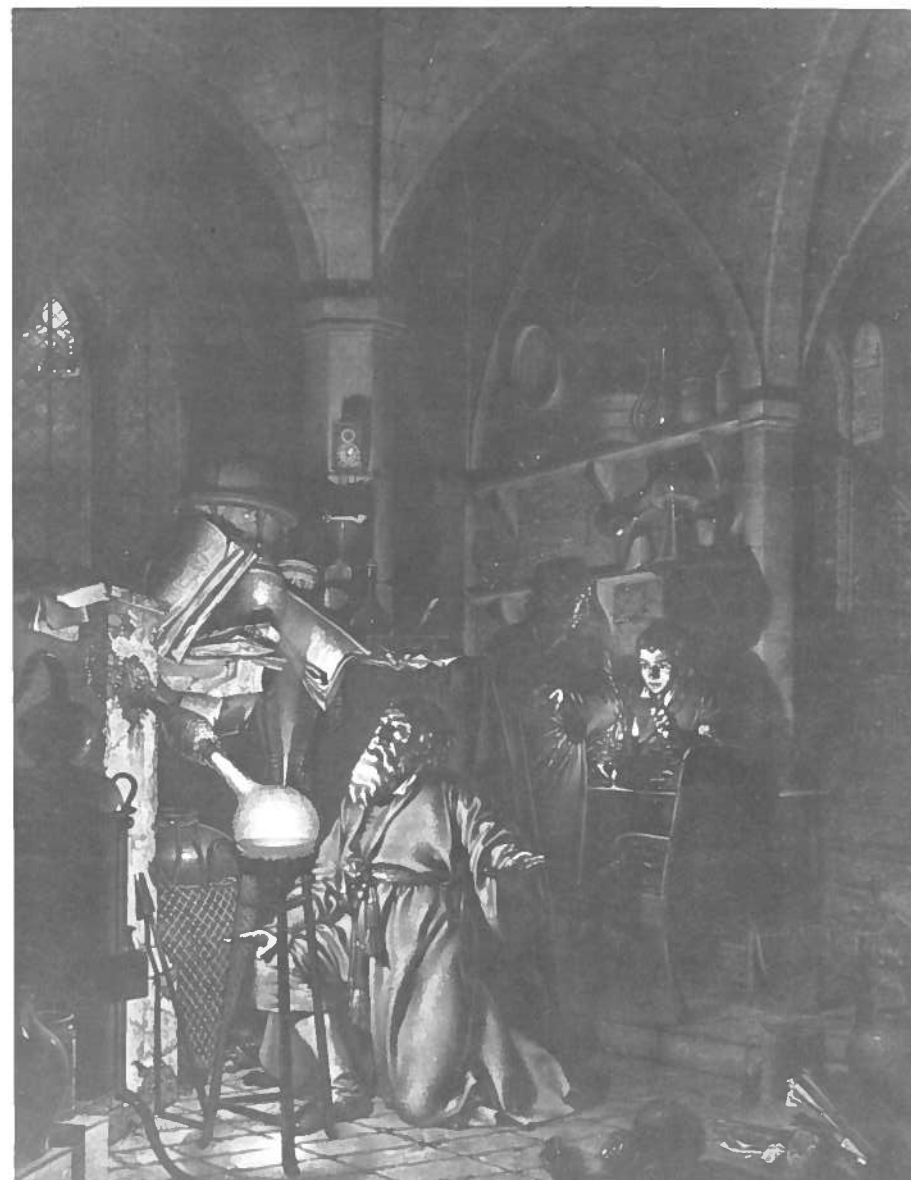
The Conference theme will focus on making chemistry more attractive to students through laboratory experience. The program is organized and directed by Maryland's Dreyfus participants in consultation with Drs. Henry Heikkinen and James Huheey.

For further information contact Don Lewis, 252-9572 or Al DeGennaro, 776-1630, or write to Don Lewis, Howard High School, 8700 Route 108, Ellicott City, MD 21043.

When did YOU  
last attend a Maryland Section meeting?

#### FIFTY YEAR MEMBERS

The Maryland Section will recognize its new fifty year members at the September meeting. This year's honorees are Henry C. Freimuth and William Frederick Knop of Catonsville, William Martinek of Baltimore and Elbert B. Childs of Chestertown.



The Fisher Collection - The Discovery of Phosphorus  
Engraving by William Pether after a painting by Joseph Wright

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#### FACSS ANNUAL MEETING

The twelfth annual meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) will be held September 29 through October 4, 1985 at the Philadelphia Marriott Hotel in Philadelphia.

The meeting will feature about forty symposia with 450 papers covering all areas of analytical chemistry. Further information can be obtained from Publicity Chairman Richard J. Knauer, Armco, Inc., PO Box 1697, Baltimore, Maryland 21203.

TIMOTHY J. MCNEESE

Tim McNeese, associate professor of inorganic chemistry at Loyola College, is a native of Minnesota. He received his education at North Dakota State University and at Harvard University, receiving his Ph.D. from Harvard in 1979. In 1984 he received the Loyola College Distinguished Teacher of the Year Award.

His research interests are in areas of organometallic and transition metal chemistry, and he has more than a dozen publications in these areas. He has also given numerous seminars and other presentations on these subjects throughout the country.

Tim's memberships include Alpha Sigma Nu Society, the New York Academy of Sciences and the Association of Harvard Chemists as well as ACS. He has been active in educational programs of the Maryland Section.

#### THE PREPARATION OF POLYNUCLEAR CHROMIUM CARBONYL COMPLEXES

Reaction of the group 6 metal hexacarbonyls with hydroxide ion have received considerable attention owing to the ability of these solutions to catalyze the water gas shift reaction. Depending upon reaction conditions, it has been noted that reaction of  $\text{Cr}(\text{CO})_6$  with base yields carbonyl metalates. These metalates, isolated from  $\text{KOH}/\text{Cr}(\text{CO})_6$  reaction mixtures in protic solvents, are polynuclear chromium carbonyl complexes of the general formula  $[\text{Cr}_4(\text{CO})_{12}(\mu_3\text{-OR})_4]^{4-}$  ( $\text{R}=\text{H}, \text{CH}_3, \text{C}_6\text{H}_5$ ). The structural features of the tetra-anion consist of a cubane-like  $\text{A}_4\text{B}_4$  ( $\text{A}=\text{chromium}, \text{B}=\text{oxygen}$ ) arrangement with triply bridging  $\mu_3$ -alkoxide groups and  $\text{Cr}(\text{CO})_3$  units. The close proximity of the chromium atoms in these complexes has prompted experiments designed to develop rational syntheses of group 6 metal carbonyl clusters. Avenues of investigation are chemical oxidation of the tetraanion, face-bridging of the cube by bidentate phosphine ligands, and dimer formation by protonation of the "capped" polynuclear species.

JOHN C. PAVLIK

John Pavlik combines work with the Fisher Collection with his primary job of management training and development within the Human Resources Department of Fisher Scientific. He received his education (B.A.) from St. Vincent College, Latrobe, Pennsylvania. Presently, he is Director of the Fisher Collection of Alchemical and Historical Pictures and Manager of Personnel Development. Previously, he was the firm's Director of Public Relations and was a science writer. He has had articles published in the Fisher Journal, *The Laboratory*, in several trade journals, and in the nationally-known magazine, *Science Digest*.

#### ART AND ALCHEMY

"Art and Alchemy" focuses on alchemy and early science history as it was recorded by the 17th century artists of Western Europe. This "general interest" topic relies on color slides made from the original artworks in the Fisher Collection. Viewers learn about some of the early developments in chemistry, metallurgy, pharmacology, medicine and allied fields, and see some of the strange apparatus and techniques employed by the 17th century alchemists. Attention is drawn to the serious, though often misunderstood, practice of alchemy -- an interesting amalgam of crude science, esoteric mysticism, theology, practical philosophy, fraud, and fun (thanks to some humorous insights provided by the artists).

The Fisher Collection has been gathered from across the world primarily by C. G. Fisher, founder of Fisher Scientific. Started in the early 1900's, the Collection is the largest of its kind and now claims over forty oil paintings plus hundreds of etchings, engravings, and graphics. Most of the paintings are "mini-masterpieces" -- products of the Dutch and Flemish Schools of the 17th century.

## SEPTEMBER MEETING

#### DATE AND PLACE:

September 19, 1985  
Thursday  
W. R. Grace Research Center  
Rte. 32 west of rte. 29  
Clarksville, Maryland

#### SPEAKERS AND TOPICS:

5:30 Timothy J. McNeese  
Loyola College  
"The Preparation of  
Polynuclear Chromium  
Carbonyl Complexes"

There will be a second  
speaker whose identity  
and topic were not available  
at press time

8:15 John C. Pavlik  
Fisher Scientific  
"Art and Alchemy"

#### COCKTAILS AND DINNER:

Social Hour 6:30  
Sponsored by W. R. Grace  
Dinner 7:00

Dinner price \$11.00 per person, but  
spouses, retired chemists and students  
may attend for \$8.00.  
Student dinners are subsidized by  
W.R. Grace.

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

John Corliss  
P.O. Box 20899  
Baltimore, MD 21209

by September 10. Late reservations  
may be made by calling John Corliss  
at (301) 235-6612 or Nolan Phillips  
at (301) 939-3500.

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

#### ACS CONGRESSIONAL FELLOWS

The ACS is seeking candidates among practitioners of the chemical sciences for appointments for its two ACS Congressional Fellowships. The deadline date for receipt of application materials is November 30, 1985. The fellowship term begins in the fall of 1986.

Information can be obtained from Ms. Mary L. Wolfe in the Department of Government and Science Policy at ACS headquarters in Washington, telephone (202) 872-4384.

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SOLVENTS

## HIGH SCHOOL TEACHER AWARD

The Maryland Section's High School Teacher Award for 1985 was shared by Juhan and Janet Anilane of the Baltimore Public School System. Both are dedicated chemistry teachers, he at Southwestern High and she at Western High.

In addition to a plaque recognizing their selection, each was presented with a tool kit courtesy of Curtin Matheson Scientific for use in their school labs. Ms. Becky Orr of Curtin Matheson made the presentation.



Becky Orr of Curtin Matheson presents awards to Juhan and Janet Anilane

## HIGH SCHOOL COMMITTEE

Our High School Committee is interested in new people to help on its various sub-committees. Any kind of help will be appreciated.

The Committee would also like additions to its Tours and Speakers Bureau. The schools really appreciate these tours and outside speakers as aids in helping the students understand chemistry and chemists.

If you wish to help, contact Mike Zapf at 667-7471.

## CHANGES OF ADDRESS

It is not necessary to notify *The Chesapeake Chemist* of address changes. We get our mailing labels each month from the ACS, so if you inform the ACS of your address change we will automatically receive the correct label.

## COUNCILOR'S REPORT ACS NATIONAL MEETING MIAMI, FLORIDA - MAY 1, 1985

Maryland Section Councilors Present: M. Eiss  
D. Jones  
D. Roswell  
C. Rowell

There were six action items on the Council agenda for the Miami meeting. Three housekeeping amendments to the ACS by-laws were passed by voice vote: Filling vacancies on the Council Policy Committee, Date of Official Count for Geographic Regions and Conformity for Restriction of Voting Rights of National Affiliation.

The following three by-law amendments were discussed at length by Council members -- two amendments were passed, one was defeated. A two-third majority vote of Council was required to pass these amendments.

### 1. Change in Requirements for Members in Retired Status

Until May 1, 1985, a member who had 25 years of ACS membership and was retired from active professional employment was eligible for retired status and could receive a discount of one-half membership dues. The by-law change, which was passed by Council 256 to 62 raised the requirement for retired status from 25 to 30 years of membership. Excluded from the by-law are members who, prior to January 1, 1986, became eligible for retirement.

### 2. Change in Requirements for Emeritus Status

This new by-law, passed by Council by a vote of 257 to 73, maintains the requirements of 35 years of membership for ACS emeritus status and requires a member to be both retired and 70 years of age. Excluded from these provisions are members who, prior to January 1, 1986, became eligible for emeritus status. Emeritus ACS members may pay no dues. Since the number of members with emeritus status has doubled in the past six years, and since growth curves predict an upward trend in the number of these members, it was felt that an increase in requirements for emeritus status was necessary to lessen the financial burden on the Society resulting from the increase in the number of members in the no-dues category.

### 3. Elimination of Reinstatement Fee

Those persons who officially resigned from the Society at the end of the last calendar year, for which dues were paid, may rejoin the Society by requesting reinstatement and paying dues for the current year. However, those members who neglected to resign but whose membership was terminated through nonpayment of dues must pay a \$10.00 fee in addition to dues for the current year if they wish to rejoin ACS. This amendment attempted to eliminate the reinstatement fee. It was defeated by Council.

In addition to voting the by-law amendments Council approved a \$3.00 cost-of-living dues increase, approved increases in the cost of 14 journal subscriptions, and nominated Mary Goode and Lincoln Hawkins as candidates for President-Elect of the Society.

## EXECUTIVE COMMITTEE MINUTES

The Executive Committee of the Maryland Section of the American Chemical Society was called to order at 7:35 P.M. On May 8, 1985 in the Chemistry Reading Room at the College of Notre Dame by the Chairman, Harold Klapper.

The members present included: C. Rowell, Sister D. Eby, S. Gregory, J. Corliss, K. Kirk, B. White, M. Miller, H. Freimuth, H. Klapper, J. Roach, T. Bitterwolf, E. Penski, M. Zapf, D. Hoster, T. Parr, and A. Zeiger.

Also present was Mrs. W. H. Schwarz, wife of Professor Schwarz of the Dept. of Chemical Engineering, Johns Hopkins University.

*Treasurer's Report:* John Roach reported that, for the period Jan. 11-Apr. 30, 1985, income was \$11,307.07 and expenses totalled \$3,843.61. However, the bill for expenses for the April meeting was still outstanding. The Section's assets stand at \$25,655.70 in deposits with Yorkridge-Calvert and Union Trust.

*Awards:* Jim King, reporting by phone, said that one new nominee had been added to the list of individuals under consideration for the Maryland Chemist Award. No further nominations for this year would be accepted after June 14, 1985. Klapper questioned whether other ways of providing nominations for awards were available. National does have a central listing of awards.

On Student Awards Night, held April 17, 1985 at the College of Notre Dame, 7 community college and 11 four-year college students were honored. Don Hoster also noted that, due to postal error, the name of Lydia Kimball of Washington College was not included in the April *Chesapeake Chemist*.

*Chemical Education and Safety:* Steve Gregory reported that Short Courses are available through National and proposed surveying attendees at the Remsen Award meeting to determine possible areas of interest. Executive Committee members were also asked to list their choices. It was noted that information from such surveys might not reflect interests of all Section members, such as industrial chemists. The selected course would probably run over one weekend in October.

*Program:* Tom Bitterwolf, Program Chairman, presented the schedule for 1985-1986, reporting that the only program yet to be determined is the joint meeting with Sigma Xi in November. The program includes: Sept. 19 - High Energy Physics; Oct. 23 - Chemical Carcinogens, Dr. Elizabeth Weissberger; Nov. 20 - TBA; Dec. 18 - Maryland Chemist Award; Feb. 19 - Recombinant DNA; Mar. 19 - State of Chemical Education, Dr. Henry Bent; Apr. 23 - Crystallography in Chemistry, Dr. Arnold Rheingold; May - Remsen Award.

*House:* John Corliss reported that, although many reservations had been made for the Remsen Award meeting on May 13, additional attendees could be accommodated.

*Public Relations:* Bob Kreps, in a phone conversation, reported sending out 2 press releases.

*Membership:* Bill White has determined that, because of high ACS membership at many large facilities (McCormick, Aberdeen, etc.), the use of "local membership chairmen" is not as promising as first hoped.

Chuck Rowell suggested that efforts to meet needs and interests of younger chemists need to be addressed.

*High School Activities:* Mike Zapf thanked Klapper and Jacques Labrosse of Fein-Marquart Associates for serving as judges at the science fair in March. He noted that the D.C. Section invites Science Fair winners to Awards Night, and proposed a display of the winning projects next year. Zapf reported that,

due to time constraints, the Section was unable to participate in the International Chemical Olympiad this year, but that plans will be made for next year. His budget, while adequate for the summer, will need a supplemental appropriation in the fall. Zapf noted that some high school teachers are requesting more substantial programs for their needs. Bitterwolf inquired about possible summer workshops to address these needs, but funding for institute-type programs is uncertain. Zapf also reported that the Section will receive funding from National for a second student for Project SEED and asked the Executive Committee to subsidize a third slot. The 2 students thus funded will work on projects sponsored by Dr. W. H. Schwarz, whose wife described the proposal for the Committee. A motion to provide \$800 for Project SEED was approved unanimously.

*Congressional Science Councilors:* Elwin Penski reported that he has received no requests for assistance from Maryland's representatives. In the past, he had sent letters to congressmen and senators on issues of interest.

*Chesapeake Chemist:* Ray Petersen requested, by phone, that the Secretary remind members that July 1 is the deadline for the September issue, and that he needs the 1985-1986 program information and an article on high school activities by then. Klapper circulated a copy of the D.C. publication; members liked the inclusion of a map of the meeting location, and also suggested that press releases should be published in *The Chesapeake Chemist*.

*MARM:* Alice Zeiger reported that approval had been given for the shift in dates to Sept. 2-4, 1986 and that the Hyatt Regency would be the site. Zeiger and Bober will attend the regional meeting at Monmouth College to publicize the Baltimore event. The dates will appear in *Chemical and Engineering News* soon. It was suggested that local businesses and industries be solicited for donations of materials and samples to be distributed to all registrants as a means of promoting their products. The MARM program will likely include 27 divisions and symposia.

*New Business:* Alan Harmon has requested Klapper to seek information from the members regarding the tax-exempt status of the Section, following an inquiry from the publishers. Roach has some pertinent material and will contact Harmon.

Zapf has found a wireless microphone system for \$139.95 from Radio Shack. The Committee approved the purchase of the system for the fall.

The Remsen Award winner, Dr. Richard Zare, will demonstrate lasers as part of his lecture at Johns Hopkins University on Monday, May 13, 1985.

Some discussion of ways to involve younger chemists in Section activities raised several ideas for further consideration: social events might be added to the program; the Younger Chemists Committee might be asked to attend an Executive Committee meeting; a presentation of ACS programs and benefits might be held at one of the meetings. Gregory volunteered to pursue setting up a local YCC; B. Seiders will be asked to assist him, since she had expressed interest in this project earlier.

Rowell reported for the Councilors that changes in the membership status of emeritus chemists, to be announced soon in *C & E N*, were made of necessity due to the increasing population of older chemists and the associated impact on the finances of ACS. Moderate increases in dues and journals also were approved.

The date for the next Executive Committee meeting was set for Wednesday, Sept. 4, 1985.

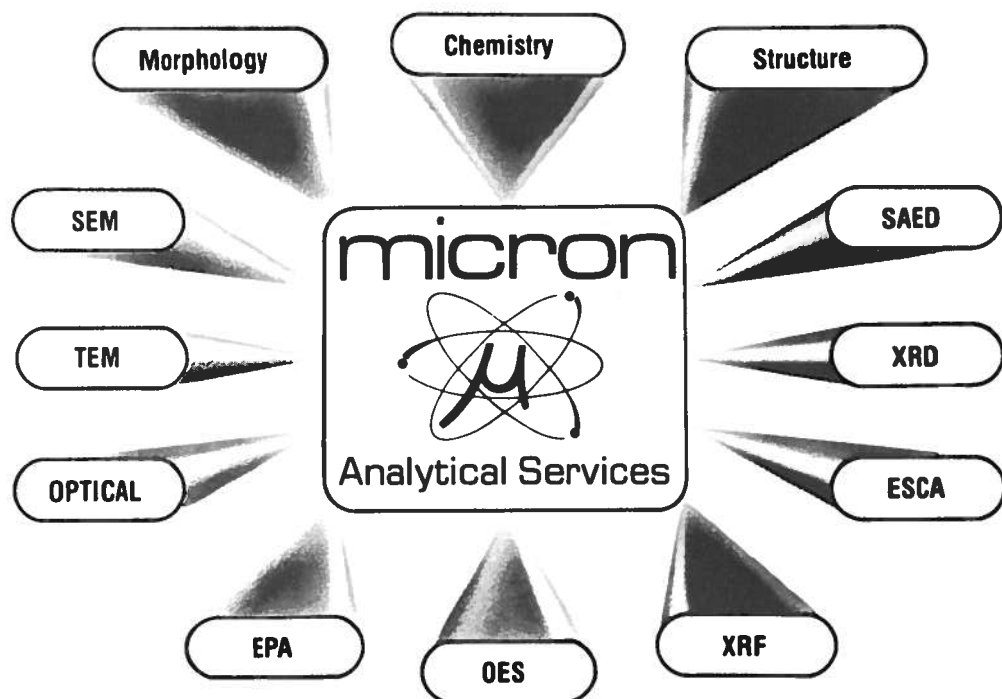
The meeting was adjourned at 9:25 P.M.

Respectfully submitted,  
*Kristine Kirk* Secretary

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