



THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY.

VOL. XXXVI

APRIL, 1980

NUMBER 4

ON-LINE COMPUTER RETRIEVAL

VANILLA

GC/MS/DS

ANALYSIS

RESEARCH & DEVELOPMENT

Mc

CHO

OH

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NO₂NC

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RESEARCH

DEVELOPMENT

ANALYSIS

GC/MS/DS

ON-LINE COMPUTER RETRIEVAL

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MARYLAND SECTION 1979 FINANCIAL REPORT

Revenues:

Annual ACS Allotment	\$ 5,120.00
New Member Commissions	45.00
Local Section Dues	2,104.00
Publications	3,921.85
Meals (Total Revenue)	4,264.50
Interest	324.88
Donations, Contributions	250.00
Return from 12th MARM	2,921.56
Grant from ACS	400.00
Return of Funds	395.19

Total Revenues \$19,746.98

Expenses:

Administrative Expenses	\$ 633.23
Local Meetings (Speakers and Related Expenses)	3,149.78
Meals (Total Expense)	5,703.38
Publications	3,538.43
Meeting Announcements	601.85
Awards	657.75
Travel Subsidy to Councilors	847.65
Conference Expenses for Local Section Officers	567.72
Subsidy to Publication Account	2,000.00
Miscellaneous	14.00

Total Expenses \$17,713.79

Capital Changes:

Capital Balance January 1, 1979	\$ 8,375.72
Net Revenues Added in 1979	\$ 2,033.19
Capital Balance January 1, 1980	\$10,408.91

CHESAPEAKE CHEMIST 1979 FINANCIAL REPORT

Revenues:

Advertising	\$1,921.85
From Local Section Operating Fund	2,000.00
Total Revenues	3,921.85

Expenses:

Printing	\$2,416.00
Addressing and Mailing	785.00
Typing	318.27
Miscellaneous	19.16
Total Expenses	\$3,538.43

Cash Balance January 1, 1979	\$ 338.84
Cash Balance January 1, 1980	\$ 722.26



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THE CHESAPEAKE CHEMIST STAFF

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Lou Sacchetti Sister Vincent
Maria Kirk

ALTERNATE COUNCILORS

Merle Eiss Alvin Bober
Robert L. Caret Clara Adams

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 Logliano
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

COUNCILORS

Donald Jones..Western Maryland College
848-7000 ext 493 or 376-2055

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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.

ACS EMPLOYMENT SERVICES

The employment aids offered by the ACS are unique---no other professional organization provides such an all encompassing program.

Employment Clearing House (ECH) - A contact medium which operates on a continuing year-round nonconfidential basis. Personal data and information concerning training and experience of candidates (ACS members and student affiliates) for employment is extracted from standard forms and processed into an information system. A personal resume may also be submitted. Employers telephone or mail specifications for an opening, and a search of the ECH file determines if there are candidates available who match the specifications. Records of candidates who best match the job description are reproduced and sent to the employer. The personal resume is included, if submitted. If there is additional interest, the employer contacts the candidate.

In order to assure equal opportunity for consideration for positions available, all ECH searches are done impartially based solely on the job specifications provided by the employer. However, in addition to being registered by discipline, women and members of minority groups can register as such on a voluntary basis. If a request is received from an employer for a search and an affirmative action need is documented, the search will be made as usual on the basis of the requirements for the position. Then, any women and/or members of minority groups whose records are included in those supplied as a result of the research will be identified. Lists of women or members of minority groups only are not supplied.

National Employment Clearing House (NECH) - A contact medium operated at each ACS national meeting on a non-confidential basis. There is no charge for this service, but candidates (ACS members and student affiliates) must be registered and in attendance at the meeting. Candidates for employment complete forms that are placed on file for employers to review. Interviews are arranged on site at a mutually agreeable time. An unemployed member who wished to use the NECH may request a waiver of the meeting registration fee in advance or during the meeting. Position openings received from companies are posted for review by candidates during each meeting. Messages may be sent to the employer representative during the meeting or candidates may follow-up directly by mail.

Advertising in Chemical and Engineering News - Members who are unemployed or under notice of involuntary unemployment within 60 days may place an advertisement in the "situations wanted" section free of charge. A letter containing the proposed text (not to exceed 45 words) as well as details of unemployment, including termination date and the name of the employer should be mailed to the Employment Aids Office. The member should specify if insertion should carry an ACS box number or name and address.

cont. on p 5...

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...cont. from p 4

Resume Service - Available to unemployed members; 50 copies of a typed resume not exceeding two pages will be reproduced and mailed. Advice can be given on format and content, but writing service can not be provided.

Academic Openings - A list of teaching, research, and postdoctoral openings at colleges and universities is published monthly if sufficient notice is received. Copies of the listing are mailed to chairmen of departments of chemistry, biochemistry, chemical engineering, and pharmaceutical chemistry. A subscription may be placed for \$12 per year. Or, one may review a copy at a local section meeting. Copies are mailed at no charge to secretaries or secretary-treasurer of *all* ACS local sections.

Newspaper Clipping Service - A weekly compilation of classified advertisements from selected large city newspapers and chemical trade journals is offered. The advertisements are duplicated and distributed. A subscription is \$15 for a six months period.

Confidential Employment Listing (CEL) - This program is designed for the currently employed member who wishes to investigate other employment opportunities discreetly. As a safeguard, members specify those employers, companies, divisions and/or subsidiaries from which the file must be restricted. Candidates are identified by code number only. Information is removed from the confidential form and coded into the year-round data system. If a confidential candidate meets the requirements of a job search, the registration card is checked to be certain the company is not designated as one restricted by the candidate. If not, a copy of the confidential application (code number only) will be mailed along with applications of other Employment Clearing House registrants who meet the requirements. If there is additional interest on the part of the employer, the Employment Aids Office is contacted. The interest is relayed to the candidate. It is the decision of the candidate to pursue the prospect further, but the Employment Aids Office *must* be advised of the decision.

Additional coverage for CEL candidates: A booklet containing a set of selected duplicated confidential applications is mailed quarterly to registered employers. This gives the employer the opportunity to review *all* confidential candidates except those who have designated restriction and to match them with job openings. The same procedure is followed as explained in the above paragraph when additional interest in a candidate is expressed by an employer. Also, a monthly update of newly registered candidates is mailed to all registered employers. Because of its special nature, there is an annual registration fee of \$25.

For additional information and forms write: Employment Aids Office, 1155 16th Street, N.W., Washington, D. C. 20036.

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GARRY A. RECHNITZ

Dr. Garry A. Rechnitz is Unidel Professor of Chemistry at the University of Delaware. His research interests center on bio-analytical chemistry with emphasis on membrane electrode systems. This research has resulted in 180 publications and has provided experience for 80 pre- and post-doctoral research students, representing some 15 nations.

Dr. Rechnitz received his undergraduate and graduate education at the University of Michigan and Illinois, respectively. Prior to moving to the University of Delaware, he was a faculty member at the University of Pennsylvania (1961-1966) and the State University of New York at Buffalo (1966-1977) where he also served as Associate Provost. Dr. Rechnitz has been a U.S. Public Health Service Research Fellow, a Fellow of the Alfred P. Sloan Foundation, and is the recipient of the 1978 Van Slyke Award in Clinical Chemistry.

BIO-SELECTIVE MEMBRANE ELECTRODES

The development of membrane electrode probes capable of measuring complex biological molecules depends, to a large extent, upon the ability to combine biochemical "mediators" with appropriate electrochemical elements. It will be shown that such mediators can range from relatively simple immobilized enzymes through various immunoagents to complex systems involving intact living microorganisms. This approach yields, in favorable cases, sensitive and highly selective bio-electrode probes for use in chemistry and clinical biochemistry.

JOSEPH JORDAN

Joseph Jordan, a native of Rumania, received his Ph.D. from Hebrew University in Jerusalem in 1945. He was a Research Fellow at Harvard and an Instructor at Minnesota before joining the staff at Pennsylvania State University in 1954. He has also held visiting appointments at Berkeley, Cornell, the Swiss Federal Institute of Technology and the University of Paris.

Professor Jordan has authored more than 100 publications in areas of polarography, voltammetry, electrode kinetics, electron transfer mechanisms, and thermochemistry of immunological and enzymatic reactions as well as electrochemistry and thermochemistry of fused salts. He is best known for his pioneering work in enthalpimetric analysis and bioelectrochemistry.

Professor Jordan has served on the Editorial Advisory Boards of *Analytical Chemistry*, *Talanta*, and *Analytical Letters*. From 1967 to 1971 he was Chairman of IUPAC's Commission on Electrochemistry and is currently a member of the Commission on Electroanalytical Chemistry. His numerous honors include the Benedetti-Pichler Award of the American Microchemical Society in 1978.

THERMOMETRIC TITRATIONS AND ENTHALPIMETRIC ANALYSIS

Contemporary instrumental methods of analysis invariably involve matter-energy interactions. It is thus paradoxical that ΔH , the most common energy change associated with chemical reactions, was a latecomer in analytical utilization. The reason is inherent in the fact that the heat of reaction is a general property and enthalpimetric analysis is thus handicapped by a lack of specificity. This difficulty is circumvented by relying on reactions whose chemistry is highly specific by nature: e.g. immunological and enzymatic processes.

Thermometric enthalpy titrations (TET) and direct injection enthalpimetry (DIE) will be reviewed, as will thermokinetic analysis and peak enthalpimetry. Work in progress involves the application of these methods in a comprehensive resource development program aimed at updating the analytical chemistry of sulfur compounds for the new coal gasification and liquefaction technologies.

APRIL MEETING

DATE:

Wednesday, April 16, 1980

PLACE:

McCormick & Co.
Hunt Valley, Maryland

SPEAKERS AND TOPICS:

6:00 pm
Garry Rechnitz
University of Delaware
"Bio-Selective Membrane
Electrodes"

8:30 pm
Joseph O. Jordan
Pennsylvania State University
"Thermometric Titrations and
Enthalpimetric Analysis"



GARRY A. RECHNITZ

COCKTAILS & DINNER:

McCormick & Co.

Cocktails 7:00 - 7:30

Dinner (7:30) \$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

Melvin Miller
Loyola College

or by calling

323-1010 ext 467

before April 11, 1980



JOSEPH O. JORDAN

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.

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Take I-83 north from the beltway to Shawan Road (Exit 20) and exit east. Turn right into the Industrial Park on McCormick Road (first light). Follow this road to Beaver Dam Road (the plant will be visible on the right). Turn right into Beaver Dam Road and take the first right (Gilroy Road). The plant front entrance is the first right off Gilroy Road. If there are no parking spaces in the front lot, drive to the side of the building. Parking on the streets is illegal.

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ECH AT 14th MARM

The ACS will operate a National Employment Clearing House at the 14th Middle Atlantic Regional Meeting in Valley Forge, King of Prussia, Pennsylvania, from April 23-25, 1980.

Registration of applicants will begin Tuesday, April 22, from 6:00 to 9:00 pm. Employer registration will begin Wednesday, April 23, at 8:00 am. Application forms will also be accepted in advance of the meeting. To obtain forms and additional information, write to American Chemical Society, Employment Aids Office, 1155 16th Street, N.W., Washington, DC 20036.

FACSS CALL FOR PAPERS

FACSS (Federation of Analytical Chemistry and Spectroscopy Societies) holds an annual fall conference to provide a high quality program to meet the needs of analytical chemists and spectroscopists. It is supported by the Analytical Division of ACS, the Analytical Section of the Instrument Society of America, the Society for Applied Spectroscopy, and the Association of Analytical Chemists, Inc.

FACSS-VII will be held at the Philadelphia Sheraton Hotel in Philadelphia, September 28 through October 3, 1980. Original unpublished papers dealing with all phases of analytical chemistry will be accepted for presentation. The meeting will include several special events, including ACS short courses and more than twenty-five special symposia.

Authors who wish to present papers must submit the title and a 50-word brief by April 15 to Theodore C. Rains, FACSS VII Program Chairman, B-222, Chemistry Building, National Bureau of Standards, Washington, DC 20034.

Towson State University

SUMMER 1980 CHEMISTRY OFFERINGS

CHEM 1905.361 CHEMICAL AND BACTERIOLOGICAL STUDIES ON WATER POLLUTION. Meets Mondays and Wednesdays, 7-10 pm, June 16 - July 31. Instructor: Dr. Max Eisenberg, Acting Director of the Department of Health and Mental Hygiene of the State of Maryland

We also offer the following summer courses:

First Summer Session Day (June 9 - July 11).
Chemistry for Non-Scientists, General Chemistry I, Chemistry for Allied Health Sciences I, Quantitative Analytical Chemistry, Essentials of Organic Chemistry, Organic Chemistry I and Principles of Biochemistry.

Second Summer Session Day (July 14 - August 15).
Chemistry for Non-Scientists, General Chemistry I & II, Chemistry for Allied Health Sciences II, Organic Chemistry II.

Evening School (June 16 - July 31).
Chemistry for Non-Scientists, General Chemistry I & II.

For Course Information, call 321-3058.

For Registration Information, call 321-2022.

EXECUTIVE COMMITTEE MINUTES

The Executive Committee of the Maryland Section, American Chemical Society, was called to order at 7:45 P.M. by the Chairman, Dr. Miller, on Wednesday, January 23, 1980, at the Knott Science Center, Notre Dame College. The following members were present: Alvin Bober, Robert Caret, Howard Cohen, Merle Eiss, Donald Hoster, Frances Hummel, Harold Klapper, Robert Kreps, Melvin Miller, Timothy Parr, Elwin Penski, Ray Petersen, Nolan Phillips, Charles Rowell, Lou Sacchetti, and Ernest Silversmith. The minutes of the November meeting were read, and the following corrections made: Dr. Petersen suggested that the word 'younger' be changed to 'junior' with reference to the Senator from California, 2nd line of Dr. Gornick's report; Mr. Cohen asked that the following addition be made to the report on Chemical Education and safety: Mr. Penski suggested that the economics of the situation be evaluated. The minutes were approved as corrected.

Dr. Miller made the following announcements:

Reports of the Officers will precede Committee reports this year. Executive Board meetings will be held on April 2, September 28 and December 3, 1980.

No report has been received from the Councilors because the information from the National Office has not arrived. Dr. Miller has appointed Norbert Zaczek and Timothy McNeese from Loyola College as Auditing Committee; the audit has been made. Future audits will take place during the summer season, when the books are inactive. Howard Cohen has been appointed Chairman of the Service Award Committee.

Correspondence. The National Society has announced an Office of Cooperative Education to interface academia and industry. They will hold seminars and guidance groups for students and teachers to improve understanding.

Three Maryland members have received 50 year pins; certificates should be distributed in March or April, since National would like to have them honored in some way.

Richard Robbert is arranging a symposium for high school teachers; Linda Sweeting has placed us on the mailing list of Baltimore County teachers.

Chairman-elect. Elwin Penski has begun to work on speakers for the programs; he distributed a list of persons and topics which are being considered, and asked each of us to check topics of interest.

Treasurer. Harold Klapper distributed the mimeographed report of the financial condition of the Section, which had been prepared by Elwin Penski for the 1979 report to the National Office.

Secretary. Frances Hummel requested that all Committee Chairmen who have not sent in a report of last year's activity please do so; she distributed copies of the Duties of Officers to new Section Officers.

House and By-laws. Nolan Phillips announced that 77 persons attended the dinner in December, and 62 persons attended the January meeting.

Public Relations. Robert Caret had no report, except to supply a map of the Towson campus to be used for the March meeting.

Membership. Robert Kreps reported that there were 7 new members in 1979, for which the Section received a rebate from the National Office of \$32.50; there were actually 128 new members last year in the Maryland Section. The claims form from National has been changed. Forms must be filled in to receive rebate.

Publicity. A small notice appeared in the Baltimore Sun about the January meeting.

Renssen Award. Work must be started on this project soon; Dr. Miller will contact Dr. Dean Robinson.

High School Student Awards. Everything is ready for the March meeting; photographs of student winners have been sent to the *Chesapeake Chemist*.

Finance. Mr. Bober distributed a budget for the coming year. Mr. Klapper suggested that the revenue could be increased by investing our savings in Money Market certificates. Mr. Bober suggested that 26 week Treasury bills might be considered. Our present interest on savings is only 3.5%. There was some discussion of this subject; National insists that Section funds be kept in absolutely secure institutions. It was suggested that the Committee investigate the funds suggested, and report in April. Mr. Rowell mentioned that Council has raised the apportionment for members; the rebate will be larger next year. The allotment for Councilors expenses should be increased. Our expenses for speakers will be lower in 1980 than they were in 1979. The cost of meetings should be reviewed. Mr. Bober was asked to consider these suggestions, and present a revised budget.

Chesapeake Chemist. Merle Eiss will need about \$500.00 more to complete this season. Mr. Cohen moved, seconded by Dr. Silversmith, the \$2000.00 be approved for the *Chesapeake Chemist* for the current year, so that there will be no problems. The motion carried.

Old Business. The subject of funds for the Councilors to attend National meetings was discussed; Maryland pays one-half of the air fare, and National pays the other half. The Secretary was instructed to forward forms to the Councilors as soon as they arrive, so that they may claim this payment, since both meetings are west of the Mississippi this year.

Dr. Miller requested authorization to appropriate \$500.00 for the High School Teachers Conference being planned for this spring. We can request funds from the National Development Fund. An all day event is being planned, with a morning session to explain the work of the Section; literature will be distributed. After luncheon, facilities in this area will be explained, and questions answered. The motion was seconded by Frances Hummel, and carried.

New Business. Mr. Cohen asked when the Maryland Section Service Award is to be awarded; the Committee was asked to make suggestions, which the Executive Committee will approve.

Mr. Kreps announced that the Instrument Society of America is holding an exhibit in Baltimore in March. Would the Maryland Section approve releasing a mailing list to them for fliers? Mr. Cohen has an extra set of mailing labels, obtained from National, which can be sold to this organization for a nominal fee. Mr. Bober suggested that we request a letter from the Instrument Society of America stating that the list will not be mis-used; he moved that we approve of selling our list on a one-time basis, for a fee of \$30.00, and the above letter. Dr. Silversmith seconded, and the motion carried. Mr. Parr mentioned that, since we have a commitment to host the MARM in Baltimore in 1985, work should be started on this project. Dr. Miller will consult with Dr. Jones to initiate preliminary planning.

The meeting was adjourned at 9:10 P.M.

Respectfully submitted,

F.C. Hummel, Secretary

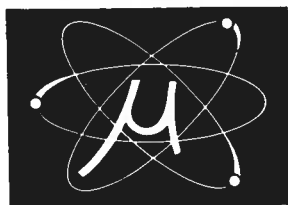
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