



THE CHESAPEAKE CHEMIST ANNOUNCES ITS FIRST CHRISTMAS COMPETITION

Following in the tradition of other great magazines, especially *Chemistry in Britain* (which, alas!, no longer has such a contest) *The Chesapeake Chemist* is pleased to announce a Competition for Christmas, 1977.

THE 1977 COMPETITION

"An acid is an acid is an acid. A base is a base is a base. An acid plus a base equals a salt plus water. An acid plus a base equals a salt plus water."

"In the Seventh Group of the Periodic Table, the realm of the Halogens comprehends the most reactive part of the family of elements, and the most electronegative portion of the Table. From hyper-reactive fluorine, component of rodent poison, to chlorine, at once ingredient of poisonous gases and of life-sustaining salt, to iodine, purple-hued conqueror of goiter, these elements encompass a wider variety of unique chemistry than all others."

These two paragraphs are samples from chemistry textbooks that might have been written by Gertrude Stein and Edward Gibbon, respectively. Surely you can do better.

Submit a few paragraphs (not to exceed 250 words) from a chemistry book as they might have been written by one of the great writers of English. From Chaucer, Marlowe, and Shakespeare to Woolf, Conrad, Faulkner, or Doctorow -- the list is almost endless. Do exercise some discretion, however. A discussion of the diazonium coupling reaction in the style of D. H. Lawrence is not likely to be acceptable.

RULES

**Eligibility:** Any member of the American Chemical Society, or any person majoring in Chemistry, is eligible, except for officers of the Maryland Section, including committee chairpeople and the staff of *The Chesapeake Chemist*. An address label from *C&EN* or a statement from the chemistry department's chairman may be requested to verify eligibility.

**Deadline:** All entries must be received no later than December 17, 1977.

**Format:** All entries must be typed, double-spaced, and fit on one sheet of 8½ x 11 paper. All entries become the property of *The Chesapeake Chemist*, and none will be returned.

**Judges:** The Editors of *The Chesapeake Chemist* will be the judges. They may seek advice from a non-chemist if necessary. In any case, the decision of the judges will be final. Entrants agree not to dispute the judges' decision.

**Pseudonyms:** In keeping with tradition, entrants may request that their entries, if successful, be published under a pseudonym. The pseudonym must be submitted at the same time as the entry.

**Prizes:** Modest monetary awards may be made at the discretion of the Executive Committee.

Send all entries to:  
Christmas Competition  
*The Chesapeake Chemist*  
2411 Diana Road  
Baltimore, MD 21209

Remember: This competition is *not* limited to members of the Maryland Section.



# THE CHESAPEAKE CHEMIST

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METAL - PORPHYRIN  
INTERACTIONS

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Alvin Bober        Thomas Simmons

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EXECUTIVE COMMITTEE MINUTES

Minutes of the Executive Committee meeting of the Maryland Section of the American Chemical Society held on January 26, 1977 at the Knott Science Center, College of Notre Dame, Baltimore, Maryland. Present: Clara Adams, Patrick Callery, Y. Caplan, Howard J. Cohen, Merle Eiss, Eli Freedman, Frances Hummel, Don Jones, Joyce J. Kaufman, James Leslie, Melvin Miller, Carl Minnier, F. T. Parr, Elwin C. Penski, Ray Petersen, David Roswell, Bob Schneider, Ernie Silversmith, R. H. Smith, W. H. Stahl, and Sister Mary Vincent.

The meeting was called to order by the Chairman, Ernie Silversmith, at 8:15 p.m.

The minutes of the meeting of October 27, 1976 as reported in the January, 1977 issue of *The Chesapeake Chemist* were approved.

Joyce Kaufman of the Awards Committee advised that they were working on nominations for Maryland Section awards as well as names for national awards and that the committee would welcome any and all suggestions from the section's members.

The Education Committee through Mel Miller reported that the audio tape library is serving a useful purpose as demonstrated by the request for twenty-two tapes from ten different people. It is their intention to expand the tape library. In addition, a short course by audio tape on gel permeation chromatography is planned for a Saturday sometime in April or late May, 1977.

According to Jim Leslie the Program Committee has set the dates and meeting plans for the 1977-1978 season. There will be four sessions at Eudowood Gardens, two at Notre Dame, one at University of Maryland Baltimore County, and one at Johns Hopkins. There will not be an April, 1978, meeting because the 1978 MARM will be held that month. The committee would welcome any ideas the membership has on speakers for this new season.

Carl Minnier noted for the Public Relations Committee that a picture of Dr. Richard L. Hall receiving the 1976 Maryland Chemist Award had been sent to the *Sunpapers* in order to publicize the event in the metropolitan area.

Ten people joined the ACS through the Maryland Section last year, according to the Membership Committee's Frances Hummel. After a discussion over whether the Membership Committee should try to solicit new ACS members through the section by means of a mass mailing to the eligible people shown on a list (300 on the most recent one) provided by National Headquarters, the Executive Committee voted to carry on the recruitment activities as in the past. Those in attendance approved a letter that will be sent to all ACS members transferring into this area as well as to any individual currently living in the area who becomes an ACS member. The letter extends an invitation to these members to be the Section's guest at one of its regular monthly dinner meetings.

It was announced that Dean Robinson had appointed the Remsen Award Committee and that they were actively engaged in their selection process. The group was also apprized of the fact that 8 out of 11 of the Remsen Award recipients later received Nobel prizes.

W. Stahl of the Finance Committee reported that he and the committee members had been gathering information on various approaches to enhancing the section's financial situation. The data are in the process of being

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assembled and should be ready for presentation at the March Executive Committee Meeting.

Don Jones made known that MARM 1978 was proceeding to the point where at least four days early in April, 1978, had been set and that contracts with Hunt Valley Inn were close to being signed. A number of members have been contacted about being the chairman and hopefully an announcement will be able to be made shortly. It was also hoped that the membership and Executive Committee would cooperate with the new chairman by graciously providing the invaluable needed assistance with which to allow this function to move smoothly to an enjoyable and successful completion.

The call went up from *The Chesapeake Chemist's* Eli Freedman and Ray Petersen for more personal news. They would like to be deluged with members' happenings -- promotions, meetings attended, awards, lectures given, etc. They would also like to include some art work. It is hoped that there will be some members so inclined.

Old business brought forth a letter of appreciation from Dr. Richard L. Hall and his family for the memorable and enjoyable evening at which he received the Section's 1976 Maryland Chemist Award. A note from Shirley Vecchio of the Ballistic Research Laboratories thanking the Section for its letter of gratitude and for its flower arrangement was circulated.

Under new business there was a discussion on providing guest speakers with a better device on which to write their information. This is to be pursued by E. Silversmith. It was suggested that the Nominating Committee for new officers meet before summer to begin their work and draw up new guidelines for the nomination process and that an announcement should be made in April that the Committee was at work on these tasks. It was also felt that the time was appropriate to have an Ad Hoc By-Laws revision committee. Joyce Kaufman, Elwin Penski, and Yale Caplan volunteered to be on that committee. The Executive Committee decided to publish in table form in *The Chesapeake Chemist* the way each councilor representing the Section at national meetings voted with respect to actions brought before the council. A suggestion was made that the committee pass a resolution to prohibit smoking during the guest speaker's appearance but to tolerate it at other times. This matter is to be pursued at the next Executive Committee meeting. A proposal to recognize outstanding high school and college students and teachers was advanced with the majority favoring this move. It was agreed that the details for such a proposal should be worked out in the future. A letter from Dr. Samuel L. Goldheim spoke about his concern over improper use of dangerous chemicals by untrained students, parents, or teachers pursuing their own curiosity or in science projects. He suggested that it would be proper for the Section through volunteers to promote an awareness of the perils associated with indiscriminate use of dangerous or toxic chemicals. The committee took up this matter and after some discussion agreed that a new committee was needed for exploring ways to disseminate chemical safety information to the community.

The Executive Committee meetings scheduled for March 23 and September 28, 1977 were changed to March 30 and October 5, 1977 because of conflicts with other matters.

The meeting adjourned at 10:50 p.m.

Respectfully submitted,

Bob Schneider  
SECRETARY

W. PETER HAMBRIGHT

W. Peter Hambricht was born in Chicago in 1939. After receiving his bachelor's degree at Antioch College in 1962, he entered the University of Chicago, receiving his M. S. in 1965 and the Ph. D. in 1966.

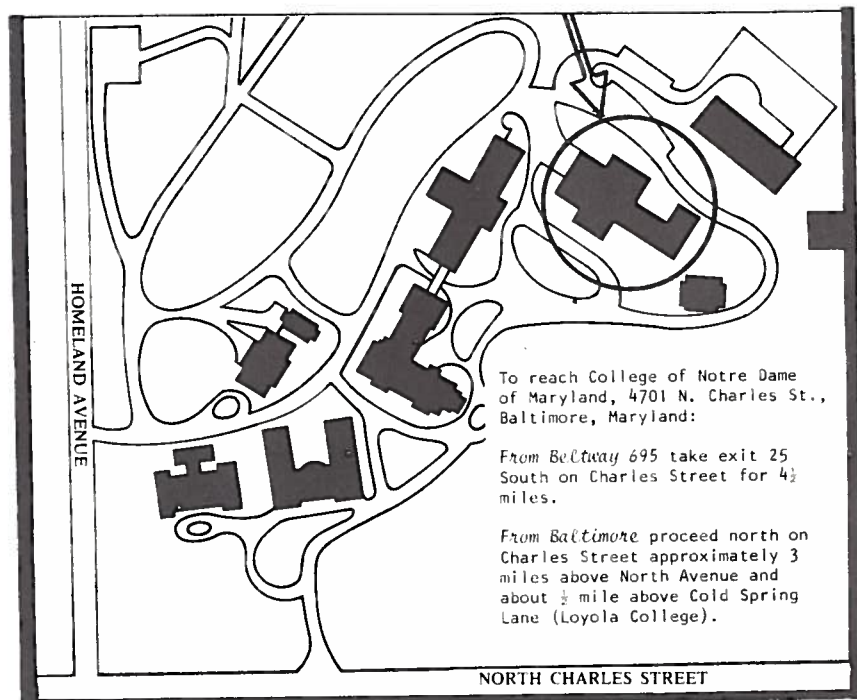
He joined the faculty of Howard University the same year, and is now a professor there. He has spent sabbatical leaves at the National Institutes of Health in Bethesda, and at the Donner Laboratory of the University of California at Berkeley.

Dr. Hambricht's research interests cover a wide range from inorganic and coordination chemistry to bioinorganic chemistry, including kinetics and mechanisms, physical methods in inorganic chemistry, and fast reaction kinetics. He considers chemical education as one of his research interests.

He is the author or co-author of more than 50 research papers. He reviews papers for many many journals, including *JACS*, *Journal of Inorganic and Nuclear Chemistry*, *Inorganic Chemistry*, and *Croatica Chemical Acta*. He also is a member of review panels for the Petroleum Research Foundation, Research Corporation, and several US Government agencies.

DYNAMIC COORDINATION CHEMISTRY OF METALLOPORPHYRINS

This lecture will focus on the kinetics and mechanisms of the reactions of porphyrin molecules with metal ions, porphyrins, and metalloporphyrins with themselves, and metalloporphyrins with both ligands and reductants. Topics such as the mechanism of metal ion incorporation into porphyrins and their acid catalyzed removal, as well as the exchange of one metal ion for another coordinated in a porphyrin, are considered. Both the equilibrium and kinetic aspects of porphyrin axial ligation will be discussed as well as mechanisms of electron transfer into such macrocyclic systems. Deformation modes are a central feature of porphyrin chemistry in that this non-classical multidentate ligand cannot unwrap from around a coordinated metal ion.



## APRIL MEETING

DATE:

Wednesday, April 20, 1977

PLACE:

Knott Science Center  
The College of Notre Dame  
North Charles Street

SPEAKERS AND TOPICS:

5:30 PM  
Dr. Peter Hambricht  
Howard University  
"Dynamic Coordination Chemistry of Metalloporphyrins"

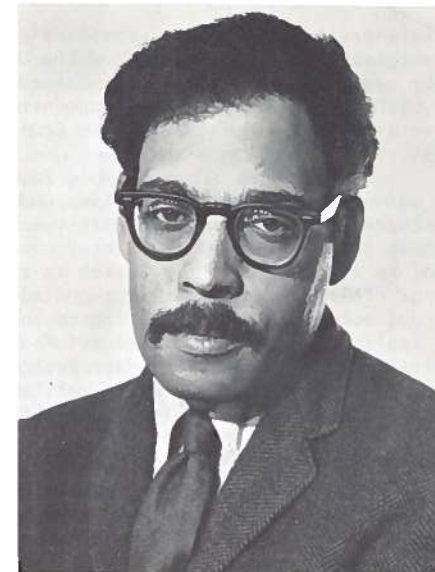
8:30 PM  
Dr. Russell Drago  
University of Illinois  
"The E and C Equation as a Tool in Chemistry"

SOCIAL HOUR:

There will be a social hour after the meeting. Refreshments will be served.



Dr. RUSSELL DRAGO



Dr. PETER HAMBRIGHT

COCKTAILS AND DINNER:

Doyle Building Dining Room  
College of Notre Dame  
Cocktails 6:30-7:15  
Cash Bar  
Hot buffet dinner (7:15) \$6.25 per person, EXCEPT: Spouses, retired chemists and students, and their spouses, may attend the dinner at \$4.25. Reservations are necessary for the dinner and should be made with

ACS RESERVATIONS  
c/o Dr. Ernest Silversmith

USE THE CONVENIENT FORM THAT APPEARS ELSEWHERE IN THIS ISSUE

(Or phone: 444-3216, 8-4 weekdays;  
358-0619 evenings and weekends)

It is not necessary to be a member of the American Chemical Society to attend the dinner or the talks, and the talks may be attended without attending the dinner. You are invited to bring your wife and friends to both the dinner and the meeting.



## RUSSELL S. DRAGO

Russell Drago was born in Turners Falls, Massachusetts, on November 5, 1928. He received his B.S. degree from the University of Massachusetts in 1950. After serving in the USAF, he obtained a Ph.D. degree from Ohio State University in 1954. In 1955 he was appointed to an instructorship at the University of Illinois and became Professor of Inorganic Chemistry there in 1965.

His main area of research involves understanding intermolecular interactions, the correlation of structure with reactivity, and utilization of physical methods to gain insight into intermolecular interactions. In this connection, he is carrying out research in the areas of coordination chemistry, charge transfer complexes, organometallic chemistry, catalysis and non-aqueous solvents. In attempting to solve these problems, he is involved in the application of a wide variety of spectroscopic methods and molecular orbital calculations. Professor Drago has directed research leading to the Ph.D. degree for over sixty students and is author or co-author of almost two hundred journal articles. In recognition of his research accomplishments, he received the American Chemical Society Award in Inorganic Chemistry sponsored by Texas Instruments in 1969. In 1973 he was awarded a Guggenheim fellowship. He is author of several textbooks including *Physical Methods in Chemistry*, published in 1977, and *Principles of Chemistry with Practical Perspectives*. He is co-author of *Experiments in General Chemistry*, and *Acids and Bases*.

### THE E AND C EQUATION AS A TOOL IN CHEMISTRY

The formation of a coordinate bond between different molecules is a process which is relevant to almost any area of chemistry one can think of. The application of this information to synthesis, solvent extraction, surface chemistry, biochemistry and catalysis quickly comes to mind. In this seminar, a mathematical analysis of enthalpy data related to bond strength will be presented which leads to a consistent model for interpreting coordinate bond energies. Ways in which this model can be employed to reveal unusual effects in inter-molecular interactions (steric effects, electron spin pairing and  $\pi$  backbonding stabilization) will be presented. The approach can also be used to determine thermodynamic quantities for various steps in a reaction that cannot be directly measured. Finally, the relationship between the strength of interaction and the spectroscopic changes which accompany coordination will be discussed.

### ASTM ANNOUNCES AWARD TO MARYLAND SECTION MEMBER

The American Society for Testing and Materials (ASTM) will present the ASTM Charles B. Dudley Award jointly to William H. Seaton, Tennessee Eastman Company (Kingsport, Tennessee), Eli Freedman, US Army Ballistic Research Laboratory (Aberdeen Proving Ground, Maryland), and Dale N. Treweek, independent consultant (Columbus, Ohio), at the Spring meeting of ASTM Committee E-27 in Boston on April 13, 1977. This award is in recognition of their efforts in developing CHETAH, ASTM's Chemical Thermodynamic Energy Release Evaluation Computer Program.

The Dudley Award is ASTM's highest award for an outstanding publication constituting an original contribution in technical areas of the Society's interests. The award will be personally presented by John Wheeler and William T. Cavanaugh, the President and Managing Director, respectively, of ASTM.

Committee E-27 was established in 1959 to develop and evaluate test methods and procedures for the hazard potential of chemicals. A special task group  
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## NOMINATING COMMITTEE SELECTED

The Nominating Committee for 1977 has been selected. In keeping with the Section's Bylaws, this committee consists of five members of the section, no more than three of whom may be members of the Executive Committee. The committee will meet soon to draw up a slate of nominees for section offices for 1978. We very much want to have broad participation in the Section's activities, and we are always looking for new ideas and new blood. Therefore, if you have any thoughts or ideas about persons who should be considered for offices, please give your suggestions to a member of the Nominating Committee by April 25. The members of the committee, their addresses and telephone numbers are:

Frances C. Hummel, Chairperson  
Alcolac, Inc.  
3440 Fairfield Road  
Baltimore, MD 21226  
355-2600

Patrick Callery  
University of Maryland School  
of Pharmacy  
636 West Lombard Street  
Baltimore, MD 21201  
528-7440

John Kolbe  
Martin-Marietta Laboratories  
1450 South Rolling Road  
Baltimore, MD 21227  
247-0700

Louis Fiorucci  
Allied Chemical Corporation  
Brock and Wills Streets  
Baltimore, MD 21231  
675-0555

William Zeiger  
McCormick and Co., Inc.  
204 Wight Avenue  
Hunt Valley, MD 21031  
667-7471

### PAID YOUR DUES YET?

Once again the time has come to pay our local section dues. If you haven't received your dues notice yet, you should get it soon.

The Maryland Section of ACS operates on a small budget, and every dollar is important. Fortunately, most of our members pay their dues in a timely manner, but if you happen to be one of the procrastinators, please try to respond promptly this year.

If you haven't yet paid last year's dues, you could give our Treasurer a welcome surprise by paying now; and don't forget, it's a tax deduction.

### ----- TEAR-OUT DINNER RESERVATION FORM -----

Enclosed is \$ \_\_\_\_\_ (\$6.25/\$4.25\* per person) for dinner reservations at the College of Notre Dame for the following persons:

| NAME | (Please print or type) | AFFILIATION |
|------|------------------------|-------------|
|------|------------------------|-------------|

|       |       |       |
|-------|-------|-------|
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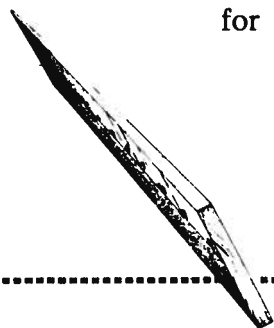
Please make check payable to Maryland Section, ACS, and mail together with reservation form to Dr. Ernest Silversmith, 2607 Taney Road, Baltimore, MD 21209. Or phone 444-3216 (8-4 weekdays), 358-0619 (evenings & weekends).

\* See note on p. 7.

Return by April 14

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City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

...continued from p. 8

headed by William Seaton undertook to improve and extend a computer program previously written by Seaton. This program computed the maximum possible exothermicity of a mixture of chemicals, a quantity which had been shown to be correlated with impact sensitivity. This program had some capability for estimating unknown heats of reaction. The revised and expanded program contained four different estimators of potential hazard, as well as more sophisticated means of estimating chemical thermodynamic properties based on Benson's method of second-order groups.

The Tennessee Eastman Company (TEC) generously supported the work on CHETAH for many years. In addition to Dr. Seaton, who at one period was permitted to devote almost full time to it for more than a year, several other TEC employees contributed experimental data and programming. The program was put into essentially its final form and a start was made on the user's guide during this time, at the end of which Dr. Freedman became the chairman of the task group and assumed responsibility for finishing the guide, testing the program on as many different computers as possible, and preparing the final version for distribution by ASTM. Meanwhile, Dale Treweek used the program on experimental data from over 200 compounds and applied a variety of statistical tests to the output; this resulted in improved determinations of the criteria for low, medium, and high energy release levels that were incorporated into the final program.

Mr. Treweek, who is now the task group chairman, is presently applying pattern recognition methods for the hazard evaluation problem. The task group is extending the program in various ways, and hopes to have a revised and improved version ready by late summer of 1977.

And who was Charles B. Dudley? We thought you'd never ask. He was the first president of ASTM.

## REGISTRATION FORM SHORT AUDIO COURSE ON GEL PERMEATION CHROMATOGRAPHY

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Employer \_\_\_\_\_  
Number of Employed Persons at \$12.00 each \_\_\_\_\_  
Number of Unemployed ACS Members at \$9.00 ea. \_\_\_\_\_  
Number of Retired ACS Members at \$9.00 each \_\_\_\_\_  
Number of Full-time Students at \$9.00 each \_\_\_\_\_  
Number of lunch reservations at \$2.75 each \_\_\_\_\_  
Total Amount enclosed \_\_\_\_\_

**IMPORTANT:** Above fees include cost of the course (including the course manual) and coffee breaks, but do not include lunch. Lunch will be available by reservation at a cost of \$2.75. If you wish to make a lunch reservation, check space above and add the cost of the lunch reservation fee. Draw a check payable to the Maryland Section, American Chemical Society, and mail to:

Dr. Melvin P. Miller  
Loyola College  
Department of Chemistry  
4501 N. Charles Street  
Baltimore, Maryland 21210

**INSTRUCTOR:** Dr. Jack Cazes, currently engaged in the development of new chromatographic media at Waters Associates.

**THE COURSE:** GPC consists of 4 audiotape cassettes (3.7 hours playing time) and a 217 page manual.

**THE PLACE:** Room 105 Jenkins Hall, Loyola College.

**DATE:** 9:00 A.M. Saturday, April 30, 1977

### GEL PERMEATION CHROMATOGRAPHY

Procedures of GPC separations involving both polymers and low molecular weight substances and techniques for converting the resultant data into useful information. Covers column efficiency; resolution; instrumentation and column materials; calibration and calculation of molecular weight distribution; and high resolution, preparative and recycle techniques.

### NEW ACS EMPLOYMENT SERVICE

The American Chemical Society has announced a new confidential employment service for employed members who wish to be considered for new employment. Detailed information and forms can be obtained from ACS Employment Aids Office, 1155 Sixteenth Street, N.W., Washington, D. C. 20036.

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University of Maryland  
636 W. Lombard Street  
Baltimore, Maryland 21201

Dr. Yale Howard Caplan  
8100 Tapscott Court  
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