



THE **CHESAPEAKE
CHEMIST**

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XLIV

MAY, 1988

NUMBER 5

1988 REMSEN AWARD



MILDRED COHN

MARYLAND WOMEN CHEMISTS' COMMITTEE

The Maryland WCC held a brief meeting in conjunction with the March Section meeting at the Maritime Institute of Technology. We decided that we did not have enough volunteers yet to publish a Speaker's Bureau list nor enough information on summer student positions to put out a publication this year. We will continue to work on these two projects and encourage other women chemists to join us in our efforts. Our next meeting will be held in conjunction with the September Section meeting, Wednesday September 14, 1988 (place and time to be announced). If you would like more information about the WCC please call Ann Abeles. If you would like to serve on the Speaker's Bureau contact Alane Kimes or if your employer has summer student opportunities contact Diane Schmit. When assembled the Speakers' Bureau list will be distributed to high schools and colleges in Maryland. We are hoping to get volunteers for the Speakers' Bureau from many parts of the state so that schools could choose speakers from their geographic area.

Secretary	Speakers' Bureau	Intern Positions
Ann Abeles	Alane Kimes	Diane Schmit
NCI-FCRF	NIDA	3608 Monterey Rd.
P.O. Box B	Addiction Res. Center	Baltimore, MD 21218
Frederick, MD	Box 5180	301-267-3503
21701	Baltimore, MD 21224	
301-698-1256	301-550-1440	

TWENTIETH CENTRAL REGIONAL MEETING

The ACS 20th Central Regional Meeting, hosted by the Northern West Virginia Section, will be held June 1-3, 1988 at West Virginia University in Morgantown. Professor Frank H. Westheimer of Harvard will give the plenary lecture. The program will feature a large number of symposia and contributed papers.

Further information can be obtained from Dr. Anthony Winston, General Chairman, Department of Chemistry, West Virginia University, Morgantown, WV 26506-6045; (304) 293-4742.

REMSEN AWARD NOMINATIONS

With the 1988 Remsen Award fresh in our minds, it is a good time to think about nominations for the 1989 award. A nomination should be accompanied by a curriculum vita and a list of the nominee's publications as well as any other information which would be helpful. Nominations should be sent to a member of the Selection Committee.

Remsen Award Selection Committee

Timothy J. McNeese, Chairman
Department of Chemistry
Loyola College
4501 North Charles Street
Baltimore, MD 21210
(323-1010, ext. 2237)

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671-3482

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396-7991

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THE 43rd REMSEN LECTURER

MILDRED COHN

Mildred Cohn, currently Benjamin Rush Professor of Physiological Chemistry, Emeritus, at the University of Pennsylvania School of Medicine, has made outstanding contributions to biophysical chemistry through her pioneering work to establish ways of using isotopes in metabolic studies. Through nuclear magnetic resonance spectroscopy, she has developed techniques for studying enzyme mechanisms which are today widely accepted and performed routinely by countless scientists. Her scientific investigations include the use of labeled oxygen to locate sites of bond cleavage, the binding of a substrate to an enzyme in the study of bound MnADP and creatine on creatine kinase by electron spin resonance spectroscopy, and protein-protein interactions through total deuteration studies.

Professor Cohn is an elected fellow of the National Academy of Sciences and the American Academy of Arts and Sciences. Her outstanding achievements have been recognized with the 1963 Garvan Medal of the ACS, the 1975 Cresson Medal of the Franklin Institute, the 1980 U.S. Senior Scientist Award of the Humboldt Foundation, the 1983 National Medal of Science, the 1984 American Academy of Achievement Award, and the 1987 Distinguished Service to Medicine Award.

NMR STUDIES OF ENZYME KINETICS AND EQUILIBRIA

The advantage of using a spectroscopic method for determining equilibrium and rate constants are self-evident since both can be obtained without perturbation of the system. Equilibrium constants in enzymatic phosphoryl transferring reactions of the central complexes, i.e., between enzyme-bound substrates and enzyme-bound products, have been determined by ^{31}P -NMR and are not easily accessible by any other method. The significance for the elucidation of reaction mechanism of the value near unity for a large number of such equilibrium constants, irrespective of the variation of the equilibrium constants of the overall reactions by four orders of magnitude, will be discussed. The use of NMR for the study of reaction kinetics are of two types. The first type is the measurement of reaction rates in real time by monitoring the appearance of product or disappearance of substrate as in other spectroscopic methods and will be illustrated by isotopic reactions, ^1H - ^2H and ^{18}O - ^{16}O exchange reactions. But, more importantly, the second type is unique to NMR and includes reactions that occur on the NMR time scale. As a consequence, rates can be determined from spectral line shapes or by saturation transfer techniques. One advantage of this saturation transfer technique is that it can be used non-invasively in vivo, as will be illustrated by an experiment measuring the rate of the creatine kinase reaction in the human brain.

TWENTY-SECOND MARM

The 22nd Middle Atlantic Regional Meeting will be held at Millersville University in Millersville, Pennsylvania (Lancaster County), May 24-26, 1988.

The meeting will include over thirty topical symposia in addition to general sessions and numerous special events, including a Pennsylvania Dutch Style Dinner featuring a show by Priestly impersonator Ron Blatchley, an awards luncheon address by Bassam Shakhshiri, a reception with ACS President Gordon L. Nelson and exhibits prepared by the Center for History of Chemistry.

Advance registration can be arranged through Dr. Richard Sasin, Roddy Science Center, Millersville University, Millersville, PA 17551; (717) 872-3411.

THE 43rd REMSEN AWARD

DATE AND TIME:

Wednesday, May 18, 1988
8:15 pm

PLACE:

Remsen Hall, Room 101
Homewood Campus of
The Johns Hopkins University

SPEAKER AND TOPIC:

Mildred Cohn
University of Pennsylvania
"NMR Studies of Enzyme
Kinetics and Equilibria"

Dinner price \$15.00 per person,
but spouses, retired chemists and
students may attend for \$13.00

COCKTAILS AND DINNER:

The Johns Hopkins University
Glass Pavilion

Social Hour 6:00 pm
sponsored by
Macalaster Bicknell
Dinner 7:00 pm

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

Henry Freimuth
3004 North Ridge Road, #601
Ellicott City, MD 21043

by May 13. Late reservations may be
made by calling (301) 465-3139
May 16

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

THE REMSEN AWARD

The annual Remsen Memorial Lectures were inaugurated in May, 1946 by the Maryland Section of the ACS to honor Ira Remsen, first Professor of Chemistry and second President of the Johns Hopkins University. The Remsen Memorial Lecturers are chemists of outstanding achievement, in keeping with Ira Remsen's long and devoted career as an exponent of the highest standards in teaching and research in chemistry.

Previous Remsen Award winners:

1987	Stephen J. Lippard	1966	Paul H. Emmett
1986	Gilbert Stork	1965	James R. Arnold
1985	Richard N. Zare	1964	Paul D. Bartlett
1984	Earl L. Muetterties	1963	Harold C. Urey
1983	George M. Whitesides	1962	George Porter
1982	Harden McConnell	1961	Herbert C. Brown
1981	Koji Nakanishi	1960	Henry Eyring
1980	Roald Hoffmann	1959	Edward Teller
1979	Harry B. Gray	1958	Robert B. Woodward
1978	John Charles Polanyi	1957	Melvin Calvin
1977	Ronald Breslow	1956	Farrington Daniels
1976	William N. Lipscomb, Jr.	1955	Willard F. Libby
1975	Henry Taube	1954	Vincent du Vigneaud
1974	Elias J. Corey	1953	Edward L. Tatum
1973	Frank H. Westheimer	1952	W. Mansfield Clark
1972	Charles H. Townes	1951	Hugh S. Taylor
1971	George C. Pimentel	1950	Edward C. Kendall
1970	George S. Hammond	1949	Joel H. Hildebrand
1969	Albert L. Lehninger	1948	Elmer V. McCollum
1968	Har G. Khorana	1947	Samuel C. Lind
1967	Marshall W. Nirenberg	1946	Roger Adams



Al Bober, aided by Tim McNeese, presents the 1987 Renssen Award to Stephen J. Lippard

DIAMOND JUBILEE

Planning has begun for the Diamond Jubilee of the Maryland Section. The celebration is scheduled for early fall of 1989. Be reminded that Archivist Ernie Silversmith has requested articles and artifacts of relevance to this anniversary. Ernie is also looking for some back numbers of this publication. At last look March of 1981 and April, September and October of 1978 were still missing.

NOMINATING COMMITTEE

A nominating committee has been appointed to prepare a slate for Maryland Section officers for 1989. Members of the committee are Merle Eiss, Harold Klapper, Ron Erickson, Ann Abeles and Al Bober, Chairman. The committee would be pleased to receive recommendations and suggestions from members.

THE JOHNS HOPKINS UNIVERSITY

Chemistry Department Colloquium Schedule

Colloquia are held at 4:15 pm (unless otherwise noted) in Renssen Hall Room 221 on the Homewood Campus of The Johns Hopkins University. For information call Mrs. H. J. Potter at (301) 338-7421.

<i>Day and Date</i>	<i>Speaker and Affiliation</i>	<i>Topic</i>
Tuesday May 3, 1988	Edward M. Arnett Duke University	Adventures in Flat Land - Molecular Recognition in Two Dimensions
Tuesday May 10, 1988	M. Gali Sanchez Visiting Scholar - JHU W. R. Grace & Co.	The Development of Auto- motive Exhaust Catalyst

ACS SUMMER PICNIC

PRESENTED BY

The Chemical Society of Washington and
The Maryland Section of the American Chemical Society

Sunday, July 31, 1988
Belmont Conference Center

The National Conference Center of
The American Chemical Society
6555 Belmont Woods Road, Elkridge, Maryland 21227

Swimming - Volleyball - Tennis
11:00 am - 5:00 pm

Beer, soft drinks, hotdogs and hamburgers will be provided
Please bring a covered dish: salad, sidedish, dessert or munchies
\$4.00/person with a maximum charge of \$10.00/family
Bring your swim suits, tennis gear, lawn chairs, coolers, frisbees,
and softball gloves

If interested please call: Hope Bober (301) 792-0970 or
Alvin Bober (301) 655-5254

So that we can get a head count

TECHNICIANS CALL FOR PAPERS

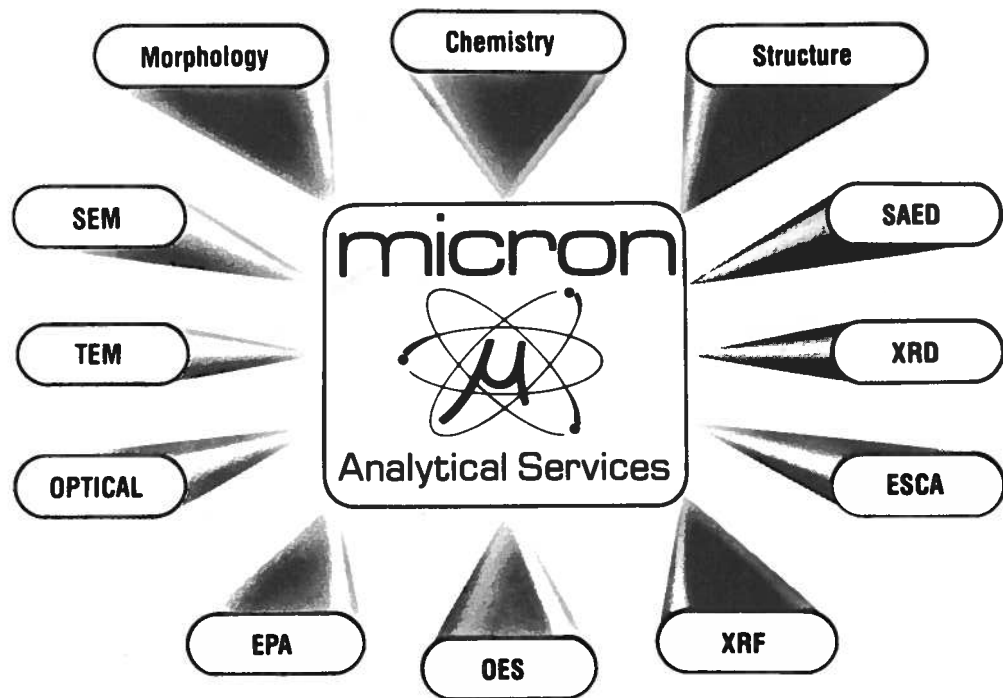
Papers are requested from technicians for the fall ACS meeting in Los Angeles September 25-30, 1988. The paper is to be written and presented by a chemical technician on work primarily executed by the technician. Presentations are to be 15-20 minutes long. Co-authorship by ACS members is not mandatory.

Two copies of a 200-word abstract on standard ACS abstract forms should be submitted by May 15 to Kenneth V. Salazar, program chairman, Symposium for Chemical Technicians, Los Alamos National Laboratory, Box 1663, MS C346, Los Alamos, NM 87545.

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