



THE **CHESAPEAKE
CHEMIST**

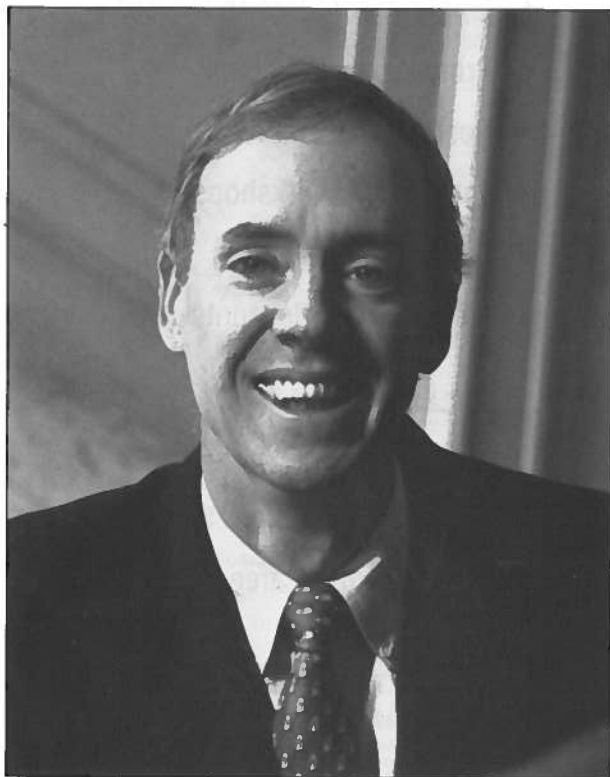
MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. II

MAY, 1993

NUMBER 5

1993 REMSEN AWARD



CHRISTOPHER T. WALSH

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THE 48th REMSEN LECTURER

DR. CHRISTOPHER T. WALSH

Dr. Christopher T. Walsh received an A.B. in Biology from Harvard University in 1965 and his Ph.D. in Life Sciences from The Rockefeller University in 1970. He was a Helen Whitney Foundation Fellow of the Graduate Department of Biochemistry, Brandeis University (1970-1972), became a Full Professor of Chemistry and Biology at MIT by 1978 and assumed Chairmanship of the MIT Chemistry Department in 1982, serving there until 1987 when he moved to Harvard Medical School. Dr. Walsh held the David Wesley Gaiser Professorship from 1987 until 1991 and was granted the Hamilton Kuhn Professorship in 1991. He currently serves as Chairman of the Department of Biological Chemistry and Molecular Pharmacology at Harvard Medical School and is also currently serving as President of the Dana-Farber Cancer Institute.

Dr. Walsh served as a primary consultant to many major pharmaceutical and biotech firms and has chaired or served on the Advisory Committees of more than 20 hospitals, institutions of higher learning and major corporations. He is a member of the National Academy of Sciences, the Institute of Medicine, the American Academy of Arts and Sciences, the American Society of Biological Chemists, the American Chemical Society and the American Society of Microbiology. Of his many awards and lectureships, Dr. Walsh received the Eli Lilly Award in Biochemistry, 1979; the Camille and Henry Dreyfus Teacher-Scholar Grant, 1976-80 and the Alfred P. Sloan Foundation Fellowship, 1975-77.

ENZYMATIC REACTIONS THAT INITIATE BACTERIAL CELL WALL BIOGENESIS

The peptidoglycan (PG) layer of the bacterial cell wall is the mechanical barrier that protects bacteria against osmotic lysis and death and antibiotics such as β lactams. Vancomycin, cycloserine, and fosfomycins act by inhibition of enzymes in their pathway. The repeating glycan and peptide strands of the PG layer are joined by a lactyl ether bridge from the 3' position of an N-acetyl glucose moiety to the L-ala in the L-ala-D- γ -glu-m-DAP-D-Ala tetrapeptide. The first two enzymes, Mur A and Mur B, of PG biosynthesis convert UDP-N-acetyl glucose amine to UDP-N-acetyl glucose amine-3'-lactyl ether (UDP-muramic acid) by two biochemically unusual enol ether transformations. Mur A catalyzes enolpyruvyl group transfer from PEP to produce enolpyruvyl UDP GlcNAC and is a target for fosfomycin inhibition. Mur B utilizes NADPH to reduce the enol ether to the lactyl ether in UDP muramic acid. The purification and characterization of these enzymes and mechanistic analysis will be described.

REMSSEN AWARD NOMINATIONS

Please send nominations for the Remsen Award to one of the following members of the Remsen Award Selection Committee. The nomination should be accompanied by a curriculum vitae and publication list of the nominee, as well as any other information that will help the Selection Committee.

REMSSEN AWARD SELECTION COMMITTEE

Timothy J. McNeese, Chairman
Department of Chemistry
Loyola College
4501 North Charles Street
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(410) 617-2237

Craig A. Townsend
Department of Chemistry
Johns Hopkins University
Charles and 34th Streets
Baltimore, MD 21218
(410) 516-7432

THE CHESAPEAKE CHEMIST

THE 48th REMSEN AWARD

DATE:

Wednesday, May 12, 1993

PLACE:

Mergenthaler - Room 111
Homewood Campus of
The Johns Hopkins University

SPEAKER AND TOPIC:

8:00 pm
THE REMSEN MEMORIAL LECTURE
Christopher T. Walsh
Harvard Medical School
"Enzymatic Reactions that Initiate
Bacterial Cell Wall Biogenesis"

Dinner price is \$18.00 per person,
but spouses and retired chemists
may attend for \$16.00; students
may attend for \$9.00.

COCKTAILS AND DINNER:

The Johns Hopkins University
Library
Garrett Room

Social Hour 6:00 pm

Dinner 7:00 pm

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

Dr. Stephen Gregory
College of Notre Dame
4701 North Charles St.
Baltimore, MD 21210

by May 5. Late reservations may
be made by calling (410) 532-5714
by May 7. An answering machine
is available at this number.

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

DIVISION OF CHEMICAL TECHNICIANS

Everyone who works in the chemical industry realizes the important contributions that chemical technicians make daily. In a rapidly advancing, highly technical society, there is a growing need for dedicated, conscientious technicians to contribute to the efforts of the scientific team. The chemical technician has evolved tremendously from lab helper to contributing member of the team. The changing role of chemical technicians is dictated by the requirements of chemical industry. With the awareness of these changes, the American Chemical Society (ACS) created the Committee on Technician Activities (CTA) in 1966, and in 1971 the National Conference of Chemical Technicians (NCCTA). Twenty years later the Society's CTA and NCCTA saw the need for the creation of a new Division within ACS for chemical technicians. This Division, referred to as the probationary Division of Chemical Technicians (TECH) was created at the Fall ACS National Meeting in 1991, and replaces the NCCTA.

There are several criteria for a probationary Division to be granted full Division status. As part of this procedure, TECH must obtain 250 Full ACS Members as Members of its Division by the end of the probationary period August, 1994.

The key goals of TECH are to promote the formation of new Technician Groups (TG's) throughout the country; to coordinate technician symposia and workshops at every National Meeting and many Regional Meetings; and to act as a communication and information body to assist local TG's.

For additional information contact: Michael Cisneros, Membership Chair, Los Alamos, National Labs, TA-48, INC-12, MS J514, Los Alamos, New Mexico, 87545 (505) 667-9164.

MAY 1993

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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

1992 William Klemperer	1968 Har G. Khorana
1991 Rudolph A. Marcus	1967 Marshall W. Nirenberg
1990 Robert G. Bergman	1966 Paul H. Emmett
1989 K. Barry Sharpless	1965 James R. Arnold
1988 Mildred Cohn	1964 Paul D. Bartlett
1987 Stephen J. Lippard	1963 Harold C. Urey
1986 Gilbert Stork	1962 George Porter
1985 Richard N. Zare	1961 Herbert C. Brown
1984 Earl L. Muetterties	1960 Henry Eyring
1983 George M. Whitesides	1959 Edward Teller
1982 Harden McConnell	1958 Robert B. Woodward
1981 Koji Nakanishi	1957 Melvin Calvin
1980 Roald Hoffman	1956 Farrington Daniels
1979 Harry B. Gray	1955 Willard F. Libby
1978 John Charles Polanyi	1954 Vincent du Vigneaud
1977 Ronald Breslow	1953 Edward L. Tatum
1976 William N. Lipsomb, Jr.	1952 W. Mansfield Clark
1975 Henry Taube	1951 Hugh S. Taylor
1974 Elias J. Corey	1950 Edward C. Kendall
1973 Frank H. Westheimer	1949 Joel H. Hildebrand
1972 Charles H. Townes	1948 Elmer V. McCollum
1971 George C. Pimentel	1947 Samuel C. Lind
1970 George S. Hammond	1946 Roger Adams
1969 Albert L. Lehninger	

GALBRAITH LABORATORIES ACQUIRES GLASS REPAIR BUSINESS

Knoxville, TN...Galbraith Laboratories, Inc., an independent microanalytical laboratory, has announced its acquisition of Galbraith Scientific Glass, a laboratory for repair and fabrication of scientific glassware. Galbraith Scientific Glass repairs all types of scientific glassware, in addition to designing and fabricating glassware to custom specifications. Using Galbraith's glassblowing services, laboratories are able to repair broken glassware at approximately half of the cost of purchasing new pieces.

Galbraith Scientific Glass will make its repair and fabrication services available to clients of Galbraith Laboratories, which provides elemental analysis of organic, inorganic, metal, paper and pulp, coal, water and waste samples for over 7,000 clients worldwide.

For additional information, contact: Galbraith Scientific Glass, 2323 Sycamore Drive, P.O. Box 51102, Knoxville, TN 37950. Tel: (615) 525-2150; Fax: (615) 521-4992.

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PICNIC DATE has not yet been confirmed. It will be on a Sunday in late JULY
or in AUGUST. Watch for a separate mailing.

Galbraith Laboratories, Inc., a worldwide provider of analytical services, has announced availability of a color periodic table wall-chart*. This chart is designed to be a useful reference tool for laboratories and classrooms, as well as offices.

* (available at no charge in reasonable quantities.)

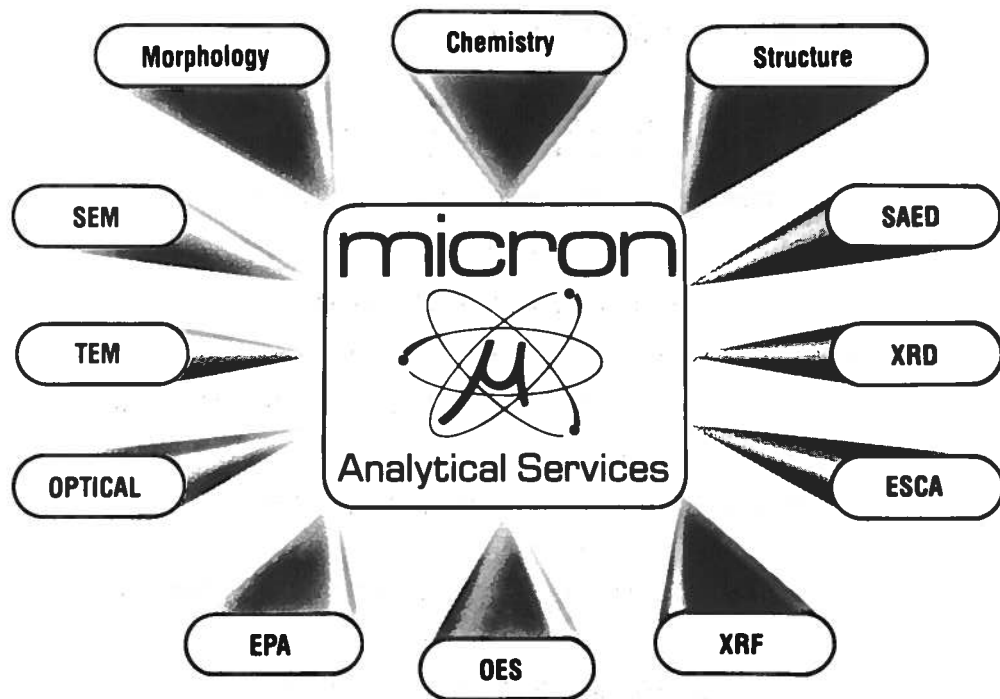
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