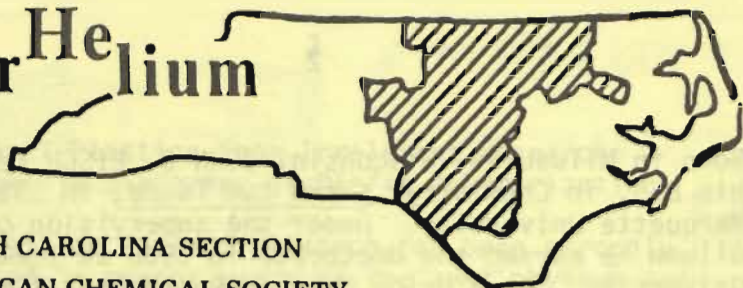


Tar Helium



NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Vol. 13, No. 3

November, 1982

A SPECIAL EVENT

The Central N.C. Section and the N.C. Section
of the ACS are Pleased to
Jointly Present

NOVEL PLASTICS FROM IRRELEVANT RESEARCH:
ZIEGLER'S DISCOVERY OF OLEFIN POLYMERIZATION

by

Professor John J. Eisch
State University of New York
at Binghamton

Date: Monday, November 15, 1982

Place: Elon College
Elon, North Carolina
(see map on page 3)

Time: 7:00 Dinner, McEwen Dining Hall
(\$6.50 for members, \$3.25 for
students)
8:00 Lecture, McEwen Dining Hall

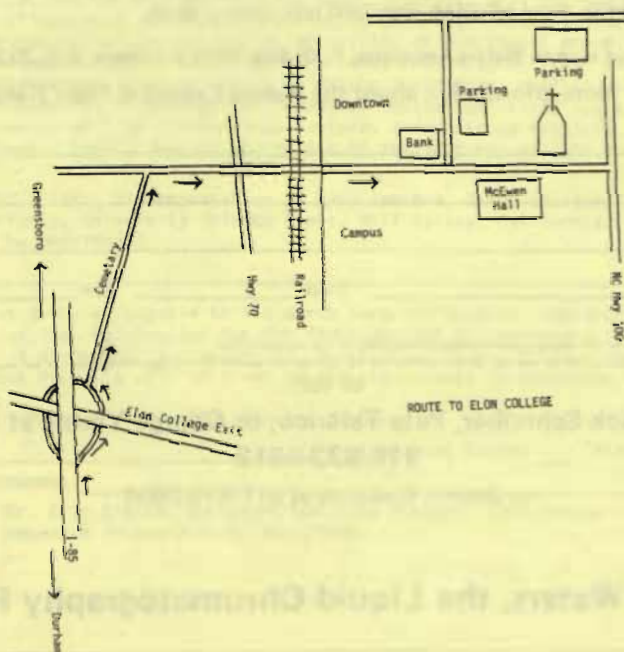
For reservations and information about ride-sharing,
please call one of the following by November 10: In
Durham, call Ms. Nancy Kearns at 684-3010; in Chapel
Hill, call Ms. Barbara Haddock at 966-1566; and in
Raleigh, call Ms. Tana Taylor at 737-2548.

Born in Milwaukee, Wisconsin, JOHN J. EISCH received his B.S. in Chemistry, summa cum laude, in 1952 from Marquette University. Under the supervision of Henry Gilman he earned the doctorate in 1956 at Iowa State University. As a Union Carbide Postdoctoral Fellow he spent 1956-57 with Karl Ziegler at the Max Planck Institut für Kohlenforschung, Mulheim, Germany, on the study of gallium and indium alkyls in organic synthesis. After a further six months at European Research Associates, Brussels, Belgium he joined the faculty of St. Louis University in the fall of 1957 as Assistant Professor of Chemistry. In 1959 he moved to the University of Michigan and in 1963 to the Catholic University of America, where he was Professor of Chemistry and Head of the Department from 1966-72. In 1972 he joined the Department of Chemistry at the State University of New York at Binghamton as Chairman and Professor of Chemistry.

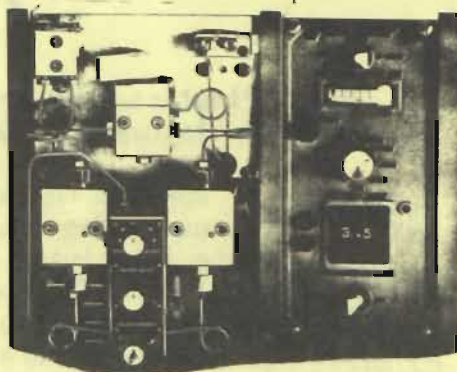
His current research interests embrace many aspects of organometallic chemistry, such as: organoaluminum alkylations and reductions; kinetics and stereochemistry of Ziegler-Natta oligomerizations and polymerizations; transition metal-mediated reduction, deoxygenation and desulfurization; preparation and chemistry of novel organometallics of lithium, boron and silicon; and novel organometallic reagents for organic synthesis. He has published over 160 research articles and reviews on his findings, as well as a correlative monograph on types of carbon-metal bonds, which is entitled, "The Chemistry of Organometallic Compounds", published by Macmillan in 1967. He has been an invited speaker at numerous ACS, Gordon Conference and international symposia. He is a member of the Editorial Board of both the Journal of Organometallic Chemistry and the Journal of Coordination Chemistry and an elected member of Sigma Xi, Phi Kappa Phi and Phi Lambda Upsilon. He is a consultant to various industrial and government laboratories. Presently, he is Chairman of the Binghamton Section of the American Chemical Society.

Novel Plastics from Irrelevant Research: Ziegler's Discovery of Olefin Polymerization

"Relevant" or applied research has been strongly advocated in recent years as the most obvious and promising route to solving many of society's technological problems. The burden of argument in this lecture is that often we do not understand Nature sufficiently to know beforehand what research is really "relevant" to human welfare. In tracing the historical background leading to Ziegler's monumental discovery of low-pressure olefin polymerization, it becomes evident that fundamental, often seemingly "irrelevant", research is indispensable both to broadened understanding and greater mastery over our environment. After recounting many of the empirical benefits of Ziegler-Natta chemistry, the lecture will address some of the unresolved mechanistic problems in this burgeoning area.



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THE NC SECTION, FALL SHORT COURSE
INTRODUCTION TO THE INTERPRETATION OF MASS SPECTRA

LECTURE DATES: Thursday, November 18 (1:00 - 5:00 p.m.) and
Friday, November 19 (1:00 - 5:00 p.m.)

PLACE: Burroughs Wellcome Auditorium
3030 Cornwallis Road
Research Triangle Park, NC 27709

INSTRUCTORS: Professor Maurice M. Bursey
Department of Chemistry, UNC-CH

Dr. Joan T. Bursey
Research Triangle Institute

Maurice Bursey received all his degrees from The Johns Hopkins University (B.A., 1959; M.A., 1960; Ph.D., 1963), stayed on for a year as lecturer, and then spent two years at Purdue University, where he was F. W. McLafferty's first postdoctoral student. He came to UNC-CH in 1966, and is Professor of Chemistry there. He has taught a dozen short courses in mass spectrometry, and has published more than 180 papers in that field.

Joan Bursey received her B.S. in chemistry and mathematics from the Creighton University (1965) and her Ph.D. from Berkley (1969). After two years postdoctoral work at UNC-CH, she joined the staff of RTI, where she is manager of the mass spectrometry laboratory. She has published extensively and has been the chairperson of the American Society for Mass Spectrometry's committee on environmental applications.

COURSE DESCRIPTION: This course provides an introduction to the interpretation of electron-impact (now called electron ionization) mass spectra, and from the rules generated there, provides a rationale for interpretation of chemical ionization mass spectra, too. Subtopics will include identification of molecular weights, establishing empirical formulas, the development of fragmentation pattern rules, prediction of functional group reactivities in fragmentations, determining structures from fragmentation patterns, rules for high-energy fragmentations (electron ionization, collisional activation) and low-energy fragmentations (chemical ionization, field ionization). The course will be divided into lectures and workshop sessions, in which problems illustrating the key points of the lectures will be assigned to the class.

RECOMMENDED TEXTS: "Interpretation of Mass Spectra, Third Edition," by F. W. McLafferty, University Science Books, Mill Valley, California. (Handouts will be provided.)

Enclosed is a check (payable to the North Carolina Section, American Chemical Society), as the registration fee for "Introduction to Interpretation of Mass Spectra". A check must accompany the registration form. Billing cannot be arranged but receipts will be given to aid registrants in obtaining reimbursement.

\$40, ACS Member \$50, Non-Acs Member \$20, Full-time student

Name _____ Highest Degree _____ Phone _____

Business Address _____

SEND TO: Dr. Eric Bigham, Burroughs Wellcome Company, 3030 Cornwallis Road,
Research Triangle Park, NC 27709

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CONTROVERSIAL TOPICS DISCUSSED
AT NATIONAL COUNCIL MEETING

There were three votes taken at Council. The first was an uncontroversial amendment setting joint-Board-Council committee lifetimes, which passed.

The second and third generated much debate. The second was on an amendment to require members with emeritus status to pay for their subscription to Chemical and Engineering News, instead of receiving it free along with other rights of emeritus membership. Otherwise, C&EN will be in an unacceptable financial situation in a few years because of the demographics of members reaching retirement age. But this is an emotional issue. The amendment was returned to committee, the vote apparently turning on the opinion of a few who thought that instead of a fee for service the money ought to be billed as dues. It will be brought up in such a revised form next year.

The third was a proposal to raise the allotment to local sections for the first 500 members of the section. This would increase aid to all sections, but the greatest percentage increase would be to small sections, many of whose programs are stifled by inflation. (Some large sections also are badly hurt by inflation.) 62% of the Council was in favor of this amendment, but it required a 2/3 vote and so failed. The swing vote apparently was held by those councilors who felt that not enough attention had been devoted towards developing a mechanism to identify the sections truly in need of help, regardless of size, and developing a formula which would target such sections specifically. Such a revision will be brought up again next year.

President-Elect Fred Basolo spoke before the Council on his radical proposal to reduce the number of national meetings to one a year. Council, I believe, feels that the business of the Society will be delay-

ed unreasonably if there is only one business meeting a year; for example, amendments with some urgency like those above, if referred to committee, could not be reconsidered for another year. The governance problem is separate from the scientific value of the meetings, of course.

Submitted by Maurice Burse

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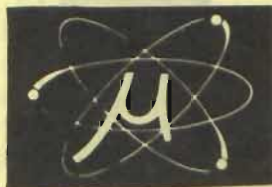


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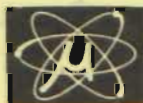
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NOMINATIONS FOR LOCAL SECTION OFFICES
TO BE PRESENTED

At the November meeting, the Nominations Committee will present the following slate of candidates for the fall elections.

Chairman Elect:	John A. Myers N.C. Central University
	Bernard F. Spielvogel Army Research Office
Treasurer:	Eric C. Bigham Burroughs Wellcome Co.
	Joseph Templeton Univ. of North Carolina-CH
Councilor:	Marcus E. Hobbs Duke University
	Richard L. Wells Duke University
Alternate Councilor:	Derek J. Hodgson Univ. of North Carolina-CH
	Peter Smith Duke University

Nominations will be accepted from the floor at the November meeting. However, anyone making a nomination from the floor should clear that nomination with the candidate and also have a short biography available at the meeting for publication in the TarHelium.

AREA SEMINARS

- Nov. 1 DAVID SIMONS, Bureau of Standards, "Microanalysis of Particulates by Mass Spectrometry", 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 2 DR. R. J. FELDMANN, N.I.H., Bethesda, "Using Surface Graphics to Study Macromolecular Assemblies", 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 8 WILLIAM GEIGER, Univ. of Vermont, "Organometallic Electrochem.: What Happens After the Electron Goes In?", 124 Dabney, NCSU.
- Nov. 8 ROBERT S. HOUK, Iowa State Univ., "Mass Spectrometry of Inductively Coupled Plasmas", 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 10 PROF. HITOSI NOZAKI, Kyoto Univ., "Novel Reagents in Selective Oxidation and Reduction", 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 11 JOHN STILLE, Colorado State Univ., "Palladium Catalyzed Coupling of Organic Halides with Organotin Reagents", 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 12 PROF. MARY J. WIRTH, Univ. of Wisconsin - Madison, "Laser Spectroscopic Studies of Solvation of Aromatic Molecules", 3:30 p.m., 103 Gross Chemical Laboratory, Duke.
- Nov. 15 ROBERT HILL, Duke University, To be announced, 11:00 a.m., 528 Kenan, UNC-CH.
- Nov. 15 SIGURD WAGNER, Princeton Univ., "Temperature - Dependent Nuclear Magnetic Resonance in $CuInX_2$ (X=S, Se, Te) Chalcopyrite Compounds", 124 Dabney, NCSU.
- Nov. 18 DR. ALLEN DOUGLAS, Merck Sharp & Dohme, "Aspects of Multinuclear NMR Spectroscopy", 308 Venable, UNC-CH.
- Nov. 19 PROF. FREDERICK G. BORDWELL, Northwestern Univ., "Nucleophilic Reactivities of Carbanions, Nitranions, Oxanions, and Thianions", 3:30 p.m., 103 Gross Chemical Laboratory, Duke.
- Nov. 22 JEROME BERSON, Yale Univ., "High-Spin Organic Chemistry and the Domain of Hund's Rule", 124 Dabney, NCSU.
- Nov. 22 ELWOOD STEVE BRANDT, Eastman Kodak, To be announced, 11:00 a.m., 308 Venable, UNC-CH.
- Nov. 29 JOSEPH AND CELIA BONAVENTURA, Duke Univ., "Structure, Function and Assembly of Hemocyanin", 11:00 a.m., 528 Kenan, UNC-CH.
- Nov. 30 GEORGIA FISANICK, Bell Labs, Murray Hill, "Multiphoton Absorption Spectroscopy of Very Highly Excited Molecules", 11:00 a.m., 308 Venable, UNC-CH.

FUTURE LOCAL SECTION MEETING

<u>Date</u>	<u>Location</u>	<u>Speaker/Affiliation</u>	<u>Topic</u>
Dec. 15	Meredith College	Dr. Edward M. Arnett Duke	To Be Announced

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