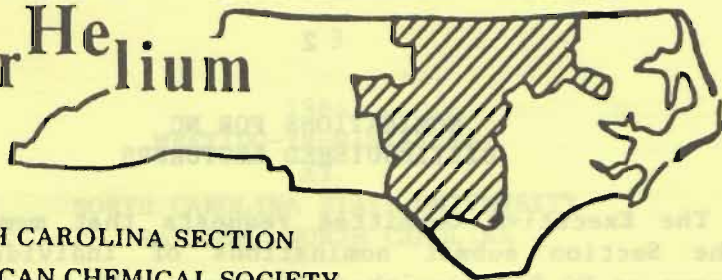


Tar Helium



NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Vol. 15, No. 8

April, 1985

1985

MEETING - IN - MINIATURE
APRIL 20, 1985

- Place:** Dabney-Cox Halls
NCSU
Raleigh, North Carolina
- Events:** Registration: 8:20 A.M. - 12:00 A.M.
Lobby, Dabney-Cox Halls, NCSU
- Papers: 8:40 A.M. - 11:40 A.M.
Dabney-Cox Halls, NCSU
- Lunch:** 12:30 P.M., N.C. Museum of Art, Blue Ridge Road, Raleigh, NC. No charge for speakers and projectionists. All others \$7.50 (\$3.75 for students).
- Awards:** The Centennial Scholarship, the High School Professional Development Award and Fifty Year ACS Membership Certificate Awards will be announced during lunch.

For reservations, please call one of the following by Wednesday, April 17: In Durham, Sue Dickerson at 684-2414; in Chapel Hill, Debbie Edwards at 962-2172; and in Raleigh, Joyce Dunn at 737-2545.

NOMINATIONS FOR NC
DISTINGUISHED LECTURERS

The Executive Committee requests that members of the Section submit nominations of individuals to serve as NC Distinguished Lecturers. Names should be submitted by May 15, 1985, along with a curriculum vita if readily available. Following closure of the solicitation period, the Executive Committee will select two lecturers for the coming year. Individuals not selected will be considered in the following year. Those who have served as NC Distinguished Lecturers are Professors Edward Arnett, Ernest Eliel, Robert Parr, Ned Porter and Vivian Stannett. Nominations should be sent to:

Robert A. Izydore
Department of Chemistry
Box 19673
North Carolina Central University
Durham, NC 27707

INTERNATIONAL OLYMPIAD COMPETITION BEGINS

Some 37 students from the NC Section competed in the first part of the International Chemistry Olympiad at the NC School of Science and Mathematics (NCSSM) on March 16. The top eight students have been selected to travel to Washington, DC for the next phase of the competition on April 27. These eight are J. Babb (NCSSM), A. Clark (Dudley HS, Greensboro), H. Hart (NCSSM), K. Klimkowski (NCSSM), S. Kuharcik (J. T. Hoggard HS, New Hanover), B. McCain (Monroe HS, Monroe), A. Morosoff (Jordan HS, Durham) and J. Roach (NCSSM). The Section wishes these students well.

1984
MEETING-IN-MINIATURE
AT
NORTH CAROLINA STATE UNIVERSITY
RALIEGH, NORTH CAROLINA

April 20, 1985

Sponsored by
The North Carolina Section
of the
American Chemical Society

Analytical Chemistry
G. William Martin, Presiding
Dabney 321

- 8:20 Registration, Dabney Hall
- 8:40 A systematic Approach to HPLC Optimization For Use In The Pharmaceutical Industry, G. William Martin, Wendy P. Wilson, S.A. Benezra, Burroughs Wellcome Co.; H.K. Smith and W.L. Switzer, N.C. State University.
- 9:00 GC-FTIR Studies of Volatile Organic Compounds Collected on TENAX Cartridges, M.J. Smith, J.W. Childers, and R.A. Palmer, Duke University; J.D. Pleil and W.A. McCleny, EMSL, U.S. Environmental Protection Agency
- 9:20 A Comparison of Three Automated Approaches to HPLC Optimization, Helen K. Smith and William L. Switzer, N.C. State University, G. William Martin, Steven A. Benezra, and Wendy P. Wilson, Burroughs Wellcome Co.
- 9:40 Classification of Substituent Atoms on Liquid Monosubstituted Benzenes by A Branching Tree Method, Richard W. Waggoner, Jr. and William L. Switzer III, N.C. State University
- 10:00 Bonded Chain Rigidity and Its Effect on Shape Selectivity in RPLC, Jane F. Mullaney, C.H. Lochmüller, and M.L. Hunnicutt, Duke University

(continued on next page)

Analytical Chemistry:

- 10:20 Break
- 10:40 Videotaped Pre-lab Instruction for Quantitative Analysis, Kevin B. Holland,
Elon College
- 11:00 A Close Look at The Counter Current Distribution Theory of Chromatography,
Francis J. Blacha and William L. Switzer, N.C. State University
- 11:20 Electrochemical Characterization of Conducting Polymers with Twin Electrode
Thin Layer Cells, B.I. Feldman, Paul Burgmayer, and R.W. Murray, The
University of North Carolina.
- 11:40 The Effect of "END-Capping": Evidence of Surface Polarity Changes Through
Exciplex Emission on Silica, M.T. Kersey, C.H. Lochmuller, and
M.L. Hunnicutt, Duke University

Inorganic Chemistry

A.F. Schreiner, Presiding
Cox 200

- 8:20 Registration, Dabney Hall
- 8:40 ESR of Electrochemically Generated Paramagnetic Systems, John Andrews,
Thomas Vess, M.K. DeArmond, K.W. Hanck, D.W. Wertz, N.C. State University
- 9:00 Crystal and Molecular Structure and Magnetism of Tri- μ -Hydroxo-Bridged
Chromium(III) Dimers, D.K. Towle, W.E. Hatfield, D.J. Hodgson, and
K. Wiegardt, University of North Carolina
- 9:20 The Enhancement of Resolution of Electronic Spectra by Circular Dichroism
of Rh-Rh Bonded Complexes, William K. Personette and A.F. Schreiner, N.C.
State University
- 9:40 Excited State Properties of Trans Diimine Complexes of Ru(II), M.L. Myrick
and M. Keith DeArmond, N.C. State University
- 10:00 Break
- 10:20 Epoxidation of Olefins by an Electrochemically Activated
Oxo-meso-tetraphenylporphyrinato Chromium(IV) Complex, Steve E. Creager and
R.W. Murray, University of North Carolina
- 10:40 A Study of the Magnetic Ordering of the Complex Bimetallic Salts
[Cr(NH₃)₆][FeCl₆] and [Co(NH₃)₆][FeCl₆], Jeffrey H. Helms and
William E. Hatfield, The University of North Carolina
- 11:00 Electropolymerized Porphyrin Films from
Metallotetra(o-aminophenyl)porphyrins, Brent A. White and R.W. Murray,
The University of North Carolina
- 11:20 Photothermal Deflection (Mirage Effect) Detection in FTIR Surface
Spectroscopy, R.A. Palmer and M.J. Smith, Duke University
- 11:40 Crown Ether Complexed Metal Nitrite Ion Pairs: The Influence of Ion
Pairing on the Reaction of the Nitrite Anion with Alkyl Bromides,
R.B. Dyer, R.G. Ghirardelli, and R.A. Palmer, Duke University

Organic Chemistry I
 Todd Craig, Presiding
 Dabney 330

- 8:20 Registration, Dabney Hall
- 8:40 The Preparation of beta-Fluorothioethers, I.D. Correa and S.T. Purrington, N.C. State University
- 9:00 A Carbohydrate Approach to the Synthesis of the Ansa Chains of Polyene Macrolides, David Liang and Bert Fraser-Reid, Duke University
- 9:20 Decomposition of Amide Tosylhydrazones, G.B. Kenion and S.T. Purrington, N.C. State University
- 9:40 Asymmetric Synthesis of (R)- and (S)-Mevalolactone and (R)-Citramalic Acid, Stephen V. Frye and Ernest L. Eliel, The University of North Carolina
- 10:00 Break
- 10:20 Isolation of the Oviposition Factor for the Tobacco Hornworm Moth From Common Horsenettle (Solanum Carolinense), John H. Hoots, Jr. and Jon Bordner, N.C. State University
- 10:40 The Employment of σ -Dioxaphosphoranes in the Synthesis of Heterocycles, Jeffery W. Kelly, P.L. Robinson, and S.A. Evans, Jr., The University of North Carolina
- 11:00 Studies Toward the Synthesis of the Avermectins and Milbemycins: Part I. Danute Bankaitis, J. Lever, G. Hollis, and M.T. Crimmins, The University of North Carolina
- 11:20 Studies Toward the Synthesis of the Avermectins and Milbemycins: Part II. John Lever, D. Bankaitis, W.G. Hollis, and M.T. Crimmins, The University of North Carolina
- 11:40 (1,5) H-Shifts in 1H-Phospholium Ions, Stephen E. Belmont and Louis D. Quin, Duke University

Organic II
Medical/Biochemical/Physical Organic
 James Kelley, Presiding
 Dabney 331

- 8:20 Registration, Dabney Hall
- 8:40 Kinetics and Thermodynamics of Enolate Alkylation in DMSO, John Harrelson and E.M. Arnett, Duke University
- 9:00 Kinetics and Thermodynamics for Reactions of Carbocations with Carbanions, Kent Molter and E.M. Arnett, Duke University
- 9:20 Molecular Mechanics Modeling of a Covalent Complex Between L. Casei Dihydrofolate Reductase and an Active-Site Directed Irreversible Inhibitor: Prediction of Attachment Site and Three-Dimensional Structure, Joe H. Chan, L.F. Kuyper, and B. Roth, Burroughs Wellcome Co.

(continued on next page)

Organic II**Medical/Biochemical/Physical Organic:**

- 9:40 Molecular Mechanics Modeling of Dihydrofolate Reductase-Inhibitor Complexes: Correlation Between Calculated Energy and Observed Affinity, Lee F. Kuyper, Burroughs Wellcome Co.
- 10:00 Break
- 10:20 The Design and Synthesis of Hapten for the Radioimmunoassay of Bupropion, David L. Musso and Nariman B. Mehta, Burroughs Wellcome Co.
- 10:40 Conformational Dynamics of Cation Binding by Carboxylic Ionophores, Byron Caughey, Duke University, and George Painter, Burroughs Wellcome Co.
- 11:00 Rapid Analysis of Saccharide Esters of Nicotiana Species, David A. Danehower, N.C. State University
- 11:20 Agglutination of Platelets by Ristocetin and Asialo-Factor VIII/von Willebrand Factor, Mary Ellen T. Switzer and P.A. McKee, Duke University Medical Center
- 11:40 UV Degradation of Pesticide Waste Water, Denise Byrd and Shri Kulkarni, Radian Inc

Physical Chemistry

Richard MacPhail

Cox 204

- 8:20 Registration, Dabney Hall
- 9:40 * Chemically Modified Carbon Paste Electrodes, Eda Ross, W. Kutner, and R.W. Murray, the University of North Carolina
- 10:00 EPR Study of Radicals Derived From Phenylhydrazine, Kirk R. Maples and Peter Smith, Duke University
- 10:20 Break
- 10:40 Accuracy of Approximations for Reaction Coordinate Contributions to Kinetic Isotope Effects, Hamid Shafiei-Kermani and L.B. Sims, N.C. State University
- 11:00 Thermodynamic Studies of Silica Gel as a Solid Acid, Karen Cassidy and E.M. Arnett, Duke University
- 11:20 Vibrational Spectra of Reacting Molecules, R. MacPhail, Duke University, and H.L. Strauss, University of Calif. Berkeley
- 11:40 Structural and Electron Localization Conditions for Conducting Organic Salts, M.H. Whangbo, N.C. State University, and S. Shaik, Ben Gurion University

*Analytical Paper

NORTH CAROLINA SECTION SPRING SHORT COURSE

MODERN MULTINUCLEAR MAGNETIC RESONANCE

DATES: Thursday and Friday, June 6-7, 1985

TIME: 9:00 a.m. to 5:00 p.m. each day

PLACE: Research Triangle Institute
Dreyfus Auditorium
Cornwallis Road
Research Triangle Park, NC 27709

INSTRUCTOR: Dr. Pierre Laszlo
University of Liege, Belgium

COURSE DESCRIPTION:

The focus of this course will be on applications of interest to practicing chemists. Topics which will be covered include:

- a) Carbon-13 NMR - Main features and organic chemical applications
 - Chemical shifts
 - Relaxation
 - Applications to organometallics and biomolecules
- b) Deuterium NMR
- c) Transition Metal NMR
- d) Two-dimensional NMR - Principles
 - Selected applications
 - Use in automated structure determination
 - Introduction to the density matrix formalism
- e) NMR of Alkali Metal Nuclei - Emphasis on organic applications
- f) Studies on the Binding of Small Molecules
- g) Metabolic Studies Using Phosphorus-31 NMR

If you have any questions concerning this short course, please call Dr. Todd A. Craig (549-2633).

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REGISTRATION FORM

Enclosed is a check (payable to the North Carolina Section, American Chemical Society) as registration fee for "Modern Multinuclear Magnetic Resonance," the NC Section's spring short course to be held June 6 and 7 at RTI.

_____ \$75 non-member	_____ \$60 ACS members
_____ \$20 students, teachers, retired, post-doctoral	_____ No charge to unemployed ACS members

NAME: _____

PHONE: _____ HIGHEST DEGREE: _____

BUSINESS ADDRESS: _____

SEND TO: Dr. William Hatfield
Treasurer, NC Section ACS
Department of Chemistry
University of North Carolina
Chapel Hill, NC 27514

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YOUNGER CHEMISTS COMMITTEE

The ACS Younger Chemists Committee is attempting to identify new directions in the chemical industry through a symposium series on emerging technologies. The first symposium--on biotechnology--will be held at the ACS National Meeting in Miami, Fla., on Monday, April 29, 1985, at 2 p.m. Industry analysts will address the impact of biotechnology on the chemical industry and focus on the economic and technological hurdles faced by companies involved in biotechnology. Interested parties should contact Judy Bauer at (415)751-1755 or John Green at (212)480-7504.

NATIONAL SYMPOSIUM ON RECENT ADVANCES
IN THE MEASUREMENT OF AIR POLLUTANTS

This is the fifth annual national symposium sponsored by EPA's Environmental Monitoring Systems Laboratory in Research Triangle Park. The symposium is in response to a need increasingly emphasized by the nation's regulatory programs to collect data on the concentration, distribution, and personal exposure to air pollutants. In seven sessions over three days, papers will focus on state-of-the-art systems for monitoring source emissions, ambient air, and acid deposition; the analysis of complex chemical data, personal exposure, and Method 25 will also be discussed.

The symposium will be held at the Radisson Plaza Raleigh Hotel in Raleigh. There is no registration fee; however, since registration is limited to space available, the attached form should be completed and mailed as soon as possible.

For additional information, call Elizabeth Mills, JACA Corp., Fort Washington, Pennsylvania, (215)643-5466.

Meeting Agenda

<u>Session</u>	<u>Date</u>	<u>Topic</u>	<u>Session</u>	<u>Date</u>	<u>Topic</u>
1	5/14/85	Acid Deposition	4	5/15/85	Analysis of Complex Chemical Data
2	5/14/85	General	5	5/15/85	Personal Monitoring
3	5/15/85	Source Emission Monitoring Using EPA Reference Method 25	6	5/16/85	Organic Pollutants
			7	5/16/85	Source Monitoring

SEMINAR REGISTRATION FORM

National Symposium on Recent Advances in the Measurement of Air Pollutants

Radisson Plaza Raleigh Hotel • 420 Fayetteville Street Mall • Raleigh, North Carolina 27601

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- **Presentations by Sellers** - All small company attendees will make a brief audio-visual presentation in one of seven sessions describing their specific technologies and services to large firms interested in products and processes covering almost every area of business activity.
- **Technology Packets** - Describes technologies offered and sought by the attendees. Small company registrants will receive a packet containing all Technology "Sought" sheets completed by the large company attendees which describes their interests and needs. Large company registrants will receive at **NO ADDITIONAL COST** a complete packet containing all "Offered" and "Sought" sheets.
- **Exhibits** - "Technology interests and needs." (Limited number of tables available.)
- **Interaction between buyers and sellers** - Ample time scheduled during conference to exchange information and discuss mutual interests.

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JUNE 12, 13 & 14, 1985

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REGISTRATION FORMS or additional information can be obtained by contacting

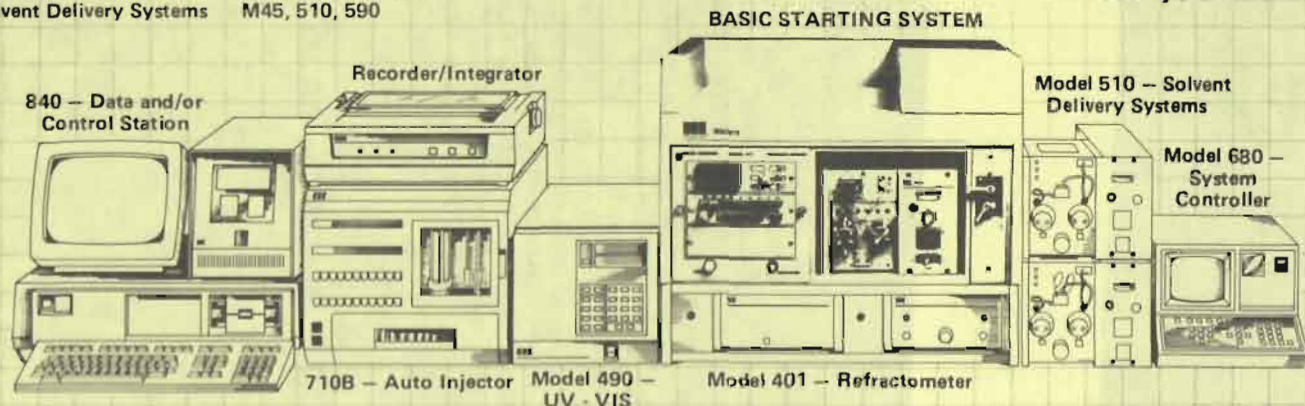
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