

THE

Tar Helium



A Publication of the North Carolina Section of the American Chemical Society

Vol. 17, No. 8

April 1987

MEETING-IN-MINIATURE

Saturday, April 11, 1987

Paul M. Gross Chemical Laboratory and Bryan Center
Duke University Durham, NC

Registration

8:30—Noon

Lobby of Gross Laboratory

Papers

9:00—Noon

Gross Laboratory

Poster Session and Coffee Break

10:40—11:00

Lobby of Gross Laboratory

Awards Presentation

12:30

107 Gross Laboratory

Luncheon

Immediately after awards

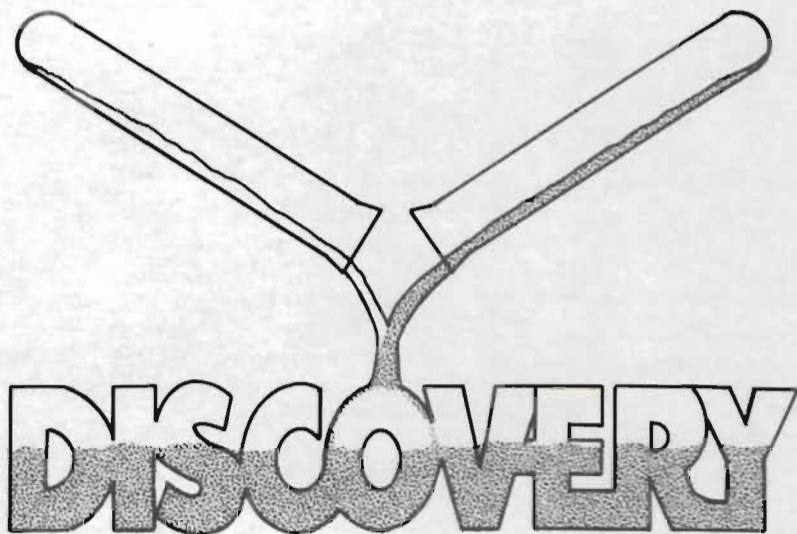
Von Cannon Hall, Bryan Center*

*Luncheon will be a buffet. The meal is free to speakers and session leaders; \$9 for members and attendees; and \$4.50 for students. Reservations are confirmed for speakers and session leaders unless notification is received. Reservations can be made by contacting one of the following by Tuesday, April 7: in Chapel Hill, Debbie Edwards, 962-2171; in Durham, Carolyn Bean, 684-2412; in Raleigh, Joyce Dunn, 737-2545; in Fayetteville, Sandra Smith, 468-1500. To cancel reservations for the meal (speakers, session leaders, or attendees), please call Joyce Dunn in Raleigh at 737-2545.

NCCU STUDENT AFFILIATE CHAPTER WINS SECOND IN NATIONAL CONTEST

N.C. Central University's Student Affiliate Chapter of the ACS earned second place in the national ACS logo contest for National Chemistry Day, November 6, 1987. The local Section congratulates the group and its advisor, Dr. John A. Myers, for this award, which is reproduced below.

CHEMISTRY MIXING MIND AND MATTER



POLYMER GROUP MAY PROGRAM

Dr. Barton Smith, of IBM, will discuss "The Diffusion of Polymer Molecules" at the Polymer Group meeting on May 14. The meeting will be held at the N.C. State University Faculty Club. Social hour is at 5:30 p.m., a buffet dinner is at 6:30 p.m. (reservations requested), and the lecture will follow at 7:30 p.m. Contact Dr. R.J. Ambrose, program chairman, for additional details (493-3443, ext. 312).

SECTION RECOGNIZED FOR RECRUITING NEW MEMBERS

With 37 new members and one new national affiliate, more new members joined the ACS through the North Carolina Section than through any other local section. We welcome those new members to the Section.

We would like to thank the membership committee, student affiliate advisors and all members who encouraged colleagues to join through the local Section. The local Section receives a commission on all members who join through the Section; therefore, it is a real benefit if new members indicate on their application form that they are joining through the North Carolina Section. There is a place to indicate this information in the lower right hand corner of the form. Membership applications are available from Section officers and membership committee members.



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NORTH CAROLINA SECTION THE AMERICAN CHEMICAL SOCIETY

Summary of Activities in 1986 — by Eric Bigham, PhD

The year began with the publication in January of the final report of the long range planning meeting. This report gave direction to many of our ongoing programs and ideas for many new ones including publications, professional relations, student organizations, academic-industrial interface, education, meetings, programs, and public communication. I am pleased with the progress that has been made in many of these areas, but there are other areas that are not yet considered.

The Section has continued to place as much emphasis on the work of committees as on meetings and programs. This year we had about 60 people assigned to various committees. A list of our committees, their purpose, and their members was published in the September 1986 *TarHelium*. The progress of several of these committees is noteworthy.

The **Membership Committee** had an outstanding year. In 1986, our section ranked number one in the nation in the number of new members (37). The total section membership grew by 100 to 1,506, which is a 7 percent growth rate. The Membership Committee succeeded in their efforts by distributing membership materials to college seniors and graduate students in the local universities and colleges.

The **Program Committee**, in its second year, made a significant contribution to our monthly programs. The committee members began to function as planners as well as advisors to the Chairman-elect. In order to compete with other activities, our programs are becoming much more significant events that require greater effort and more time to plan and organize. One of the more significant meetings was devoted to "Improving High School Chemistry." This meeting, held at the North Carolina School of Science and Math, helped the Section to focus on the problems of high school chemistry, and it revealed the great amount of interest that our members have in this subject. An exceptional program on Microcomputers in Chemistry was held in October. A demonstration of locally developed software was held from 3:00 to 5:00 p.m. followed by a lecture by Dr John W. Moore, director of Project Seraphim. The Polymer Discussion Group continued to maintain an active meeting schedule, often drawing as many attendees as the Section meetings.

During 1986, we experimented with variations in the meeting format. At some meetings, the dinner was eliminated to reduce costs, and the lecture was followed by a reception for the speaker. This format is less expensive to hold, and it preserves and enhances the social aspects of the meeting. We continued to move the meetings to various, interesting locations in the Section to make it more accessible to our members. We estimate that about 20 percent of the membership attended at least one meeting.

The Section held its most successful **Meeting-In-Miniature** ever in 1986. We had 85 papers presented to 165 attendees. Both numbers are records. This meeting was special in that it featured a separate poster session for high school students in which 9 posters were presented. The meeting was also used as a forum for the presentation of the Section's awards.

A major new effort for our Section was the creation of an **Academic Industrial Interface Committee**. This committee will serve as a link between the individuals that compose the ACS and the institutions for whom we work. Some very interesting ideas (including the offering of graduate level chemistry courses at work locations remote to college campuses) came from their planning meeting.

The recognition of outstanding accomplishments in chemistry is one of our main accomplishments. In 1986, the Section presented three \$500 Centennial Scholarship Awards to chemistry graduate students from our section and one \$500 Professional Development Award for High School Chemistry Teachers. Furthermore, two outstanding chemists were selected as North Carolina Distinguished Chemists Lecturers for 1986; the seventh and eighth in our series. The Section also nominated a college student for the ACS Regional Scholarship. Three local chemists were presented their ACS Fifty Year Membership certificates at our awards ceremony at the Meeting-in-Miniature. We are also proud of two Section members who won ACS National Awards and of one who received the prestigious North Carolina Medal for his outstanding contributions to science. In addition to these awards, our section is proud that one of our members was a candidate for President of the ACS and was later elected Chairman of the Board of Directors.

A bid was prepared and submitted to host the 1991 **Southeastern Regional Meeting** of the ACS. Our very positive experience in holding the highly successful 1984 SERM led us to seek to host this meeting again. An *ad hoc* committee assembled materials that were presented to the SERM Steering Committee at the 1986 meeting. Our bid lost by one vote to Charlotte.

Pre-college chemistry education is recognized in the Section as an area that deserves much of our attention. The **High School Chemistry Committee** continued to serve as our link with teachers. We organized a panel discussion on high school chemistry mentioned above, and developed a needs list that will guide future efforts. The committee sent a newsletter that provided information on events, programs, and resources to all chemistry teachers in our section. The **Safety Committee** teamed with the High School Committee to provide a laboratory safety manual to all chemistry teachers in our Section. The Section awarded a competitive Professional Development Grant to a teacher.

The Section installed a new Publications Committee in 1986. Our publication, *The TarHelium*, has been produced in the past by a single editor. This job had become entirely too large for one person, so the task was broken down into three parts. The committee now consists of an editor, who manages the publication, a co-editor, who supervises production, and an advertisement manager. This staff has managed to produce a top quality publication at reasonable cost.

The **Education Committee** was once again one of our star performers. This group provided us with two top-notch short courses—one on the "Role of Chemists in Biotechnology" and another on "Statistics Without Fear." These courses not only provided an excellent educational opportunity for the 80 people who took them but also helped to raise money to fund our Centennial Scholarship program. The costs of these courses incidentally is only 1/10 of what a similar course would cost elsewhere.

This year we renamed our **Public Relations Committee** to the **Public Communications Committee** to be more consistent with its real function. This highly active group again prepared news releases on our meetings and award winners, and they achieved good coverage of our events in the local press. This committee also hatched its plans for a Section Award to be given to a North Carolina news media outlet for quality reporting of scientific news. The committee also made initial efforts on the creation of a speakers bureau to provide knowledgeable sources of information for schools and the general public.

1987 EPA/APCA SYMPOSIUM ON AIR POLLUTANTS SET FOR MAY 3-6

The annual national symposium on Measurement of Toxic and Related Air Pollutants will be held May 3-6 in the Sheraton Imperial Hotel, Research Triangle Park. The meeting is cosponsored by the U.S. Environmental Protection Agency's Environmental Monitoring Systems Laboratory and The Air Pollution Control Association.

The technical program will include both invited and contributed papers emphasizing emerging technology in the measurement of air pollutants (gases and particulates). Categories include acidic deposition, quality assurance, indoor and air pollution, hazardous waste emission, complex chemical data analysis, source measurements, ambient measurements, wood stove emission, atmospheric chemistry, and measurement application of physico-chemical properties of toxics.

For more information, contact Seymour Hochheiser at (919) 541-2106 or Dr. R.K.M. Jayanty at (919) 541-6483.

Program



Meeting-in-Miniature

April 11, 1987

North Carolina Section, American Chemical Society
DUKE UNIVERSITY

ANALYTICAL CHEMISTRY I

**Lawrence E. Bowen, Presiding
Room 103, Gross Laboratory**

- 9:20 "Spectroscopic Studies of Free-Standing Metal Poly-Pyridine Polymer Membranes," *Christopher S. Johnson*, R.W. Murray, Cathy Moore, The University of North Carolina—Chapel Hill
- 9:40 "Chronoamperometry of Plasticized Poly(vinylchloride) Valinomycin Membranes," *Michael L. Iglehart* and Richard P. Buck, The University of North Carolina—Chapel Hill
- 10:00 "Comparison of Mossbauer Spectroscopy, X-ray Diffraction and FTIR for Quantitative Analysis of Goethite/Hematite Mixtures," *D.D. Amarasiriwardena*, L.H. Bowen and S.B. Weed, North Carolina State University
- 10:20 "Digital Simulation of Longitudinal Broadening," *Chitra J. Amarasiriwardena* and W.L. Switzer, North Carolina State University
- 10:40 COFFEE BREAK
- 11:00 "Magnetic Field, DCP Interactions," *BT. Buckley*, C.B. Boss, J.S. Gentry, North Carolina State University
- ★ 11:20 "Analog to Digital Conversion of a CD/Optical Spectropolarimeter," *Timothy A. Policke*, Jack W. Trexler, James A. Knopp, Anton F. Schreiner, North Carolina State University
- 11:40 "Optimization Techniques for Multi-Independent Variable AA," *David G. Anderson*, A.D. Weiss, C.B. Boss, North Carolina State University
- 12:00 "Effects of Various Ligands on Cobalt Absorption Signal in Flame AAS," *G.L. Klunder* and C.B. Boss, North Carolina State University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, *Von Cannon Hall*, Bryan Center

ANALYTICAL CHEMISTRY II

**John W. Olesik, Presiding
Room 107, Gross Laboratory**

- 9:00 "Supercritical Fluid Sample Introduction for ICP Spectrometry," *Su-Jane Den* and John W. Olesik, The University of North Carolina—Chapel Hill
- 9:20 "Preliminary Studies of Noise Sources and Matrix Effects in the ICP," *Eric Williamsen* and John W. Olesik, The University of North Carolina—Chapel Hill
- 9:40 "Detection of Proteins in Capillary Zone Electrophoresis Using Post-Capillary Derivatization," *DJ. Rose* and J.W. Jorgensen, The University of North Carolina—Chapel Hill
- 10:00 "A Refinement of the Potassium Tracer Method for Residential Wood Smoke in Ambient Air," *Clifton Calloway*, Shutian Li, James W. Buchanan, Appalachian State University
- 10:20 "The Development of Thin Layer Derivative Cyclic Voltabsorptometric Methodology," *Robert M. Paddock, Jr.* and Edmond F. Bowden, North Carolina State University
- 10:40 COFFEE BREAK
- 11:00 "Application of Experi-System Software in Laboratory Robotics," C.H. Lochmuller, *B. Meiseles*, K.R. Lung, Duke University
- 11:20 "Stereochemical Effects in Ammonia Chemical Ionization Mass Spectrometry," *G. Dean Marbury* and C. Guenat, Northrop Services, Inc. and NIEHS
- 11:40 "Preparation and Characterization of Dissolved Gaseous Organic Compounds for Use as Reference Materials in Environmental Analysis," *JoAnne Cianola*, Jack Tuschall and John Turlington, Northrop Services, Inc.
- 12:00 "The Effects of Transition Metal Ions on the HPLC Separation of PCP and Its Cosynthetics," *Richard Couch* and Louis A. Jones, North Carolina State University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

BIOCHEMISTRY

C. Tyler Burt, Presiding
Room 104, Gross Laboratory

- 9:00 "Synthetic Complement Peptide C3-(1383-1403) that Contains Arg-Gly-Asp Binds to CR₁, The Phagocyte C3bi Receptor," *P. Anantha Reddy*, Michelle T.C. Jong, Samuel D. Wright and Bruce W. Erickson, The University of North Carolina—Chapel Hill and Rockefeller University
- 9:20 "Synthetic Peptides Based on COOH-Terminal Segments of C5a Anaphylatoxin Have Spasmogenic and Chemotactic Activities," *Raju Mohan*, Shabbir A. Khan, Marlene S. Kawahara, Tony E. Hugli and Bruce W. Erickson, The University of North Carolina—Chapel Hill and Research Institute of Scripps Clinic
- 9:40 "Agents Affecting Astroglial Chloride Influx," *S.D. Wyrick*, F.T. Smith and W.E. Kemp, School of Pharmacy, The University of North Carolina—Chapel Hill
- 10:00 "Chromatin Structure of a Tissue Specific Gene in the Active and Inactive State," *Kenneth W. Porter* and Barbara Ramsay Shaw, Duke University
- 10:20 "A Chemist's Approach to the Purification and Characterization of Polyclonal Antisera: The Utility of HPLC," *Daniel J. Thompson* and Barbara Ramsay Shaw, Duke University
- 10:40 COFFEE BREAK
- 11:00 "Determination of Unimolecular Electron Transfer Rate Constants for Strongly Absorbed Cytochrome *c* on Tin Oxide Electrodes," *James L. Willit* and Edmond F. Bowden, North Carolina State University
- 11:20 "NMR Demonstration of the Phosphodiester Threonine Ethanolamine Phosphodiester in Fish Lens," *C. Tyler Burt*, NIEHS and J. Levine, NCSU, Veterinary School
- 11:40 "Electrical and Magnetic Properties of Proteins as They Relate to Polarization, Hyperelectronic Polarization, Semiconductivity Structure, and Superconductivity," *James O. Williams*, Angela Purdie, Mary Bailey, *Wesley Person* and Juan Padilla, Fayetteville State University
- 12:00 "Some Electrical and Magnetic Properties of Human Hemoglobin," *James O. Williams*, Angela Purdie, *Mary H. Bailey* and Juan Padilla, Fayetteville State University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

INORGANIC CHEMISTRY I

**Anton F. Schreiner, Presiding
Room 222, Gross Laboratory**

- 9:00 "Addition of Electron Withdrawing Alkynes to Tungsten Vinylidene and Acetylide Complexes," *A.S. Gamble*, K.R. Birdwhistle and J.L. Templeton, The University of North Carolina—Chapel Hill
- 9:20 "ESR Spectroscopy of Reduced Ruthenium(II) Complexes," *William Brewer*, Jean-Noel Gex, Kenneth W. Hanack and M. Keith Dearmond, North Carolina State University
- 9:40 "Electronic Properties of High Temperature Superconductors $\text{La}_2\text{M}_x\text{CuO}_4$," *M. Evain* and M.-H. Whangbo, North Carolina State University
- 10:00 "Synthesis of the Nickel(II) Complex of an Elusive Ligand: 6,8,15,17-Tetraphenyl[b,i]-[1,4,8,11]tetraazacyclotetradecine," *Richard P. Hotz*, Suzanne T. Purrington, Robert D. Bereman, North Carolina State University
- 10:20 "Magnetic Properties of Single Crystal Cobalt Dioxyacetate," *W.E. Hatfield*, *Brian R. Rohrs* and J.H. Helms, The University of North Carolina—Chapel Hill
- 10:40 COFFEE BREAK
- 11:00 " $\text{Rh}^{\text{II}}(\text{Carboxylato})_2\text{L}_2$ Complexes: Optical, CD, MCD, IR and ^{13}C NMR Studies," *Jack W. Trexler*, Timothy A. Policke and Anton F. Schreiner, North Carolina State University
- 11:20 "Electrocatalysis at the Metalloporphyrin Film/Solution Interface," *Karen Pressprich* and R.W. Murray, The University of North Carolina—Chapel Hill
- 11:40 "Sodium Borosilicate Sol-gel Films on Electrode Surfaces," *C.A. Lundgren* and R.W. Murray, The University of North Carolina—Chapel Hill
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

INORGANIC CHEMISTRY II

**Richard L. Wells, Presiding
Room 228, Gross Laboratory**

- 9:00 "Reactions of $(\text{Me}_2\text{SiCH}_2)_2\text{AsSiMe}_3$ with Gallium Halides; Crystal Structure and Dynamic NMR Study of the Dimer $\{[(\text{Me}_2\text{SiCH}_2)_2\text{As}]_2\text{GaBr}\}_2$," *A.P. Purdy, R.L. Wells, A.T. McPhail, and C.G. Pitt, Duke University*
- 9:20 "Synthesis of a Dimeric Tris(arsino)gallane Containing a Nonplanar $(\text{Ga-As})_2$ Ring, and a Trimeric Mono(arsino)gallane Containing a $(\text{Ga-As})_3$ Ring in the Twist-Boat Conformation; Crystal Structures of $\{[(\text{Me}_2\text{SiCH}_2)_2\text{As}]_2\text{Ga}\}_2$ and $\{[(\text{Me}_2\text{SiCH}_2)_2\text{AsGaBr}]_3\}$," *R.L. Wells, A.P. Purdy, K.T. Higa, A.T. McPhail, and C.G. Pitt, Duke University*
- 9:40 "The Use of $\text{As}(\text{SiMe}_3)_3$ and $\text{RAs}(\text{SiMe}_3)_2$ ($\text{R}=\text{Me}_2\text{SiCH}_2$ and Mesityl) to Synthesize Organogallium-Arsenic Compounds," *R.L. Wells, S. Shafieezad, A.P. Purdy, and C.G. Pitt, Duke University*
- 10:00 "Anion Influence on the Solution Optical Activity (CPL) of Europium Nitrate and Chloride Complexes of Chiral Crown Ethers," *R.C. Carter, R.G. Ghirardelli, D.H. Metcalf and R.A. Palmer, Duke University*
- 10:20 "Kinetics and Mechanism of Iron Exchange Between Tris(acetohydroxamato)iron(III) and CDTA," *Sandra Graham and A.L. Crumbliss, Duke University*
- 10:40 COFFEE BREAK
- 11:00 "Variable Temperature FTIR Diffuse Reflectance Investigations of the Reaction of SO_2 with CaO , $\text{Ca}(\text{OH})_2$ and CaCO_3 ," *Meg M. Thompson and Richard A. Palmer, Duke University*
- 11:20 "Reactions of Tetracarbonyl (dimethylaminomethylene) Iron," *M.S. Brookhart, J.L. Templeton, A.E. Bruce and John Montgomery, The University of North Carolina—Chapel Hill*
- 11:40 "Routes to the Tethered Cationic Iron Carbene Complexes and Their Precursors," *Jon L. Collins, Robert C. Buck and M.S. Brookhart, The University of North Carolina—Chapel Hill*
- 12:00 "Synthesis, Characterization, Dynamics and Ligand Trapping Reactions of Iron η^3 -Benzyl Complexes," *Robert C. Buck and M.S. Brookhart, The University of North Carolina—Chapel Hill*
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

ORGANIC CHEMISTRY I

Ernesto Brunet, Presiding Room 110, Gross Laboratory

- 9:00 "Highly Stereoselective Syntheses Based on 1,3-Oxazanes," *Ernest L. Eliel* and Zu-Chang He, The University of North Carolina—Chapel Hill
- 9:20 "Conformational Analysis of 3-Aminothianes," *Ernesto Brunet* and Paloma Azpeitia, Universidad Autonoma de Madrid, Madrid, Spain
- 9:40 "Rapid Injection NMR Investigation of the Reactivity of α - and β -Alkoxyketones with Dimethylmagnesium: Kinetic Evidence for Chelation," *Stephen V. Frye*, Ernest L. Eliel and Roland Cloux, The University of North Carolina—Chapel Hill
- 10:00 "On the Mechanism of Ring Opening of Azetidins by Phenols," *Quentin L. Eaton* and Robert H. Higgins, Fayetteville State University
- 10:20 "Preparation of Novel Azetidins," *Monique R. Watson*, Quentin L. Eaton and Robert H. Higgins, Fayetteville State University
- 10:40 COFFEE BREAK
- 11:00 "A Comparison of Various Trialkylsilyl Ethers on the Ring Closure of 3-Chloro-1-(alkylamino)-2-propanols," *Monique R. Watson* and Robert H. Higgins, Fayetteville State University
- 11:20 "Ring Closure of Trimethylsilyl Ethers of 3-Chloro-1-(Alkylamino)-2-propanols," *Quentin L. Eaton* and Robert H. Higgins, Fayetteville State University
- 11:40 "A Rapid Method for Determination of Fractionating Column Efficiency," *Christine A. Minch*, Nancy J. Lyons and Robert H. Higgins, Fayetteville State University
- 12:00 "Synthesis of Blocked Isocyanates," *S. Lonikar*, R.D. Gilbert and R.E. Forne, North Carolina State University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

ORGANIC CHEMISTRY II

Russell L. Linderman, Presiding
Room 111, Gross Laboratory

- 9:00 "The Reaction of Thiophenylmagnesium Bromide with Diethyl Ether During Grignard Preparation," Louis A. Jones, *M. Kathryn Lee* and Carol M. Haney, North Carolina State University
- 9:20 "Carbohydrate-Based Approach to Subergorgic Acid," B. Fraser-Reid, R. Tsang and *Helen Pak*, Duke University
- 9:40 "CHO Versus CH=CH₂ Competition in Radical Cyclizations," B. Fraser-Reid, R. Tsang, *John Dickson* and R. Walton, Duke University
- 10:00 "Oxidation of Trifluoromethyl Carbinols," *David Graves* and Russell J. Linderman, North Carolina State University
- 10:20 "Acyclic Diastereoselective Addition Reactions of α -Alkoxyorganocuprate Reagents," *Joyce McKenzie* and Russell J. Linderman, North Carolina State University
- 10:40 COFFEE BREAK
- 11:00 "Synthesis of α -Hydroxysilanes," *Yun Suhr* and Russell J. Linderman, North Carolina State University
- 11:20 "The Structure of Fluorinated-Diketone," *N.V. Lazaridis*, C.L. Bumgardner and S.T. Purrington, North Carolina State University
- 11:40 "Selective Coupling of Aryl Halides with Trifluoromethylacetylides," *C.-H. Huang* and C.L. Bumgardner, North Carolina State University
- 12:00 "Kinetics and Thermodynamics of Enolate Silylation," Edward M. Arnett and *Joe C. Ellington, Jr.*, Duke University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

PHYSICAL CHEMISTRY

**Roger E. Miller, Presiding
Room 105, Gross Laboratory**

- 9:20 "Phase Equilibria of Associated Liquid Mixtures: Water Formaldehyde Dimethylhydrazone, N,N-Dimethylhydrazine Formaldehyde Dimethylhydrazone, and Water-Monomethylhydrazine," *FW. Getzen, M.Th. Cohen-Adad, I. El Allali*, North Carolina State University
- 9:40 "The Structure of the Nitrous Oxide Dimer From Near IR Laser Spectroscopy," *Z.S. Huang* and R.E. Miller, The University of North Carolina—Chapel Hill
- 10:00 "Infrared Spectroscopy and Vibrational Predissociation of HCN Dimer and Trimer," *K.W. Jucks* and R.E. Miller, The University of North Carolina—Chapel Hill
- 10:20 "Field-Driven Electron Self Exchanges," *Joseph C. Jernigan* and Royce W. Murray, The University of North Carolina—Chapel Hill
- 10:40 COFFEE BREAK
- 11:00 "EPR Study of Radicals Derived From Maleic Acid and Related Species," *Will H. Donovan* and Peter Smith, Duke University
- 11:20 "Thermochemical Studies of Alumina," *E.M. Arnett* and *Marguerite H. Healy*, Duke University
- 11:40 "Anodic Protection for Corrosion Control," *Sastry P. Tenjarla*, North Carolina Central University
- 12:00 "Dynamics of Liquid Cyclopentane," *Jay Variyar* and R.A. MacPhail, Duke University
- 12:30 Award Presentations, 107 Gross Laboratory, followed by luncheon, Von Cannon Hall, Bryan Center

POSTER SESSION

Lobby, Gross Laboratory (During Coffee Break)

"Synthesis of Monoacyl-and Diacyl-4,4-Diethylpyrazolidine-3,5-Diones: N-Acylation vs O-Acylation," *Juan A. Bernal-Ramirez* and Robert A. Izydore, North Carolina Central University

"Study of Physical and Chemical Properties of Ruthenium Trispyrazolylmethane Based Complexes," *A. Llobet*, K. Baroawi, M. Curry and T.J. Meyer, The University of North Carolina—Chapel Hill

"Photochemistry of Phenyl Thioethers and Sulfoxides," *J. Paul McDermott, Jr.* and P.J. Kropp, The University of North Carolina—Chapel Hill

"Magnetic Studies of Manganese Complexes Modelling the Oxygen Evolving Site of PSII," *Martin L. Kirk* and William E. Hatfield, The University of North Carolina—Chapel Hill

"Characterization of the Minor Product in the Synthesis of 2H-Isoindole-4,7-Diones," *John Myers*, U.B. Sunay, H. Orhue and G. Ogbozor, North Carolina Central University

"Magnetic and Electrical Properties of Lanthanide Phthalocyanine Sandwich Compounds," *Juan Padilla* and William E. Hatfield, The University of North Carolina—Chapel Hill

"Cluster Calculations on the Spin Peierls System CuNSG," *Jeffrey H. Helms*, Brian R. Rohrs and William E. Hatfield, The University of North Carolina—Chapel Hill

"Synthetic and Mechanistic Studies of Oxyphosphorane-Promoted Cyclodehydration of Diols," *William T. Murray* and Slayton A. Evans, Jr., The University of North Carolina—Chapel Hill

"¹⁹F NMR Measurements of *in vivo* Anesthetic Metabolism," *Barry S. Selinsky* and Robert E. London, NIEHS

Policies
(Annual I)

NOTES

analog \rightarrow digital CD UV/VIS

JASCO 5 REFURBISHMENT (obsolete, parts different)

hi freq. PET Photoelastic Modulator

low freq.

PM

} ABS } CD

dark current - background of PM

w/ Apple II+

highpass filter, amplifier
low " " "

\sim 10 chips

my SHURCLIFF:
~~SHURCLIFF~~:

Polarized Light Production and Use

The following organizations provided financial support for the 1987 MEETING-IN-MINIATURE:

- BASF Corporation
- Burroughs Wellcome Co.
- Chemical Industry Institute of Toxicology
- Ciba-Geigy Biotechnology Research
- General Electric Company
- Glaxo

The Section thanks Phi Lambda Upsilon of Duke University for their assistance with the 1987 Meeting-In-Miniature.

NOTES

SECTION

(1) *[Handwritten notes]*

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SYMPOSIUM ON STRUCTURE AND ORDER IN POLYMERS

June 18 and 19, 1987

Paul M. Gross Chemical Laboratory, Duke University,
Durham, North Carolina

In Honor of the 65th Birthday of W.R. Krigbaum,
James B. Duke Professor of Chemistry

Presented by the Department of Chemistry, Duke University and the
Polymer Group

North Carolina Section of the American Chemical Society

Principal Speakers

W.R. KRIGBAUM (Duke University)
A. CIFFERI (University of Genoa, Italy)
B. CRIST, JR. (Northwestern University)
J.B. DAWKINS (Loughborough University, England)
R.W. GODWIN (BASF Corporation)
W.L. MATTICE (University of Akron)
R.J. ROE (University of Cincinnati)
K.J. SMITH, JR. (SUNY College of Forestry)
L.H. SPERLING (Lehigh University)

Call For Papers

Contributed papers for poster presentation are solicited. Papers dealing with original research in polymer chemistry, physics or technology under the broad theme of the symposium will be accepted. Those papers addressing the areas of Professor Krigbaum's research interest are particularly welcome. The deadline for submission of title is May 22, 1987.

Accommodation

A block of rooms have been set aside for the participants at the special symposium rate at:

*Sheraton University Center
2800 Middleton Avenue
Durham, NC 27705
(919) 383-8575*

Please make reservation directly with the hotel.

(continued on next page)

Banquet

A banquet, at a cost of about \$20 per person, is planned for Thursday evening, June 18, 1987. Please reserve a place by indicating your interest on the registration form.

For More Information

Please address inquiry to: Professor P. Smith
Department of Chemistry
Duke University,
Durham, NC 27706
(919) 684-2238.

REGISTRATION FORM

Symposium on Structure and Order in Polymers

June 18-19, 1987

Duke University

Name _____

Affiliation _____

Address _____

Telephone _____

- Plan to attend the Symposium: Yes
- Plan to present a contributed paper: Yes No
- Plan to attend the banquet Thursday evening: Yes No
 Yes, with guest

Please mail this form to: Professor P. Smith
Department of Chemistry
Duke University
Durham, NC 27706

4th TRIANGLE CHROMATOGRAPHY SYMPOSIUM AND EXHIBIT

On Thursday, May 14, 1987 the Triangle Chromatography Discussion Group and the North Carolina Section of the ACS are cosponsoring the 4th Triangle Chromatography Symposium and Instrument Exhibit at the Jane S. McKimmon Center in Raleigh.

- 9:00 JAMES N. LITTLE—*Zymark Corporation*
"Robotic Sample Preparation for GC and HPLC"
- 9:45 Coffee Break—Instrument Exhibit
- 10:30 THOMAS E. BEESLEY—*Advanced Separation Technologies Inc.*
"Application of Bonded Cyclodextrins for the Separation of Various Isomers"
- 11:15 R.K. GILPIN—*Kent State University*
"Surface Chemistry of Bonded Materials"
- 12:00 Luncheon at the McKimmon Center—Instrument Exhibit
- 1:30 KENNETH WILSON—*Applied Biosystems*
"Microbore and Narrow Bore Separations of Proteins and Polypeptides"
- 2:15 JOHN W. DOLAN—*LC Resources Inc.*
"Expert Systems in HPLC"
- 3:00 Coffee Break—Instrument Exhibit
- 3:45 MILTON L. LEE—*Brigham Young Univ. and Lee Scientific*
"Current Trends in Capillary Supercritical Fluid Chromatography"
- 4:30 MARVIN VESTAL—*Vestec, Inc.*
"HPLC-Mass Spec Interfaces"
- 5:15 Social Hour/Reception

REGISTRATION FORM

(Registration deadline is May 8, 1987)

Name _____

Affiliation _____

Street Address _____

City _____ State _____ Zip _____

Telephone _____

Registration form must be accompanied by a check or money order payable to: The Triangle Chromatography Discussion Group.

Mail to: Dr. John Hines, Research Triangle Institute,
Research Triangle Park, NC 27709

Advanced Registration: \$15 (\$20 on-site)
Student Advanced Registration: \$7.50 (\$10 on-site)

ONE-DAY WORKSHOP

"Analytical Gas Chromatography—Practical Capillary GC"

DR. WALTER JENNINGS

Sponsored by: The North Carolina Section, American Chemical Society
and The Triangle Chromatography Discussion Group

Date: Wednesday, May 13, 1987

Time: 9:00 am—5:00 pm

Place: Jane S. McKimmon Center, Western Blvd., Raleigh, NC

Instructor: Dr. Jennings is a professor in the Department of Food Science and Technology at the University of California at Davis and is a co-founder of J&W Scientific, Folsom, California. He is recognized as a leader in the field of capillary gas chromatography and has authored two books and many publications in that area of analytical chemistry. In the last several years, Dr. Jennings has taught over 300 workshops involving capillary gas chromatography at points all over the world.

Course Description: Based on a format designed primarily for the practicing analyst, the material is presented in such a manner that it is also valuable background for research supervisors and management personnel. The course begins with simplified considerations of the fundamentals and proceeds rapidly to state-of-the-art. Handout materials, excerpted from Professor Jennings' new book, "Analytical Gas Chromatography," which is scheduled to be released by Academic Press in August 1987, will be provided. Registrants desiring further information should contact Dr. Charles Sparacino, Research Triangle Institute, (919) 541-6581.

REGISTRATION FORM

(Registration deadline is May 5, 1987)

Enclosed is a check (payable to the NC Section, American Chemical Society) as registration fee for "Analytical Gas Chromatography—Practical Capillary GC." My cancelled check is my receipt. Proceeds support the ACS Centennial Scholarship Fund and the TCDG program fund.

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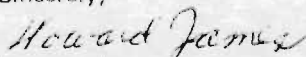
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