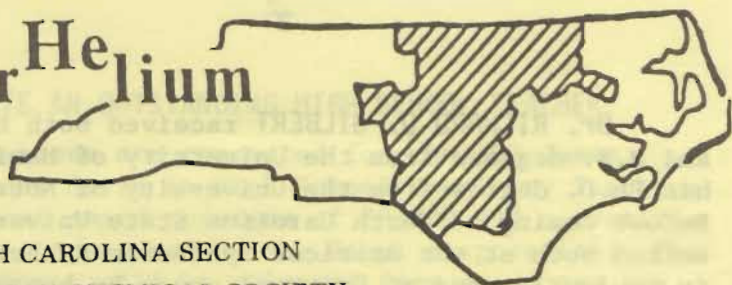


Tar Helium



NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Vol. 12, No. 3

Raleigh, NC

November 1981

"ANISOTROPIC SOLUTIONS OF CELLULOSE
AND CELLULOSE DERIVATIVES"

Speaker: Dr. Richard D. Gilbert
Department of Textile Chemistry
North Carolina State University

Date: Thursday, November 12, 1981

Place: Faculty Club
North Carolina State University
Raleigh, North Carolina

Time: 5:30 Social Hour
(Cash Bar-\$1.00)

6:30 *Buffet Dinner
(\$9.25 for members/\$4.50 for
students)

7:30 Program

*Please make reservations no later than Tuesday,
November 10, 1981. Call Barbara Hannah at 966-1566
in Chapel Hill, Terry Laing at 684-2414 in Durham,
or Tana Taylor at 737-2548 in Raleigh.

Dr. RICHARD D. GILBERT received both his B.S. and M.S. degrees from the University of Manitoba and his Ph.D. degree from the University of Notre Dame. Before coming to North Carolina State University, he worked both at the American Synthetic Rubber Company in Louisville and at Uniroyal where he became a Section Manager. Dr. Gilbert has been at NCSU since 1966 and has been a full professor since 1968. Dr. Gilbert has been active in American Chemical Society affairs. He has served as Chairman and Councillor from the New Haven Section as well as Alternate Councillor from the North Carolina Section. In addition, he is Secretary-Treasurer of the Cellulose Division and is Alternate Councillor for the Polymer Division.

* * *

The requirements for the formation of anisotropic polymer solutions will be briefly reviewed. The possibility of liquid crystal formation in solutions of cellulose and cellulose derivatives will be examined. Several examples of lyotropic systems from the recent literature will be discussed. Evidence for liquid crystal formation for cellulose, cellulose acetate and methylol cellulose in suitable solvents and that highly anisotropic solutions of these polymers are cholesteric in nature will be presented.

DIRECTIONS TO THE FACULTY CLUB

The NCSU Faculty Club is located on Hillsborough Street in Raleigh between the Beltline and the N. C. State Fairgrounds. The entrance intersects the north side of Hillsborough near the Beltline.

NOMINATE AN OUTSTANDING HIGH SCHOOL TEACHER

Nominations are requested for the ACS James Bryant Conant Award in High School Chemistry Teaching. This national award consists of \$3,000 and a certificate, and is sponsored by the Ethyl Corporation. The national winner will be selected from among ten regional winners who will receive appropriate certificates. The North Carolina section is limited to one candidate who would be selected by the High School Awards Committee. The nominee must be actively engaged in the teaching of chemistry in a high school and will be judged on teaching quality, ability to challenge and inspire students, extracurricular work in chemistry, and demonstrated on-going self-improvement. Further information may be obtained from Professor Pelham Wilder, Jr., Department of Chemistry, Duke University at 684-6029. Nominations and all supporting material must be received by December 1.

POSITION SOUGHT

PhD (1979) Analytical Chemist seeks research, manufacturing or marketing position. Interested in developing administrative skills. Experience as Group Leader of Analytical Services with a major US corporation before relocating with family in the Research Triangle Area. Please contact Dr. Rebecca Siebert, (919) 847-7168.

LOCAL SECTION MEMBERS ON NATIONAL TV

Two members of the North Carolina Section, Drs. C. W. Jameson and Douglas Walters, were recent participants on NBC's television show "Health Field". Dr. Jameson and Dr. Walters, who are both with the National Institute of Environmental Health Sciences in the Research Triangle Park, spoke about chemical toxicity, tests to determine the risks associated with exposure to chemicals and the extent of exposure to chemicals in the general environment. The program was taped in conjunction with the American Chemical Society's national meeting in New York in August.

ABOUT THE CANDIDATES

For Chairman Elect:

Dr. LOUIS D. QUIN was born in Charleston, South Carolina; he graduated from the Citadel (BS, 1947) and the University of North Carolina (MA, 1949; PhD, 1952). After a period of research with the FMC Corporation in South Charleston, West Virginia, and service in the U.S. Army, he came to Duke University in 1956. He served as Chairman of the Department of Chemistry 1970-76, and was appointed James B. Duke Professor in 1981. His research is primarily in the area of organophosphorus and heterocyclic chemistry. He served as General Chairman of the International Conference on Phosphorus Chemistry held in Durham in June 1981; this Conference was sponsored by both the Organic and Inorganic Division of the American Chemical Society, and the Proceedings will soon be published by ACS as Volume 171 in their Symposium Series. In 1977, together with Charles Moreland of North Carolina State, he gave an ACS course on Carbon-13 NMR spectroscopy.

Dr. BERNARD F. SPIELVOGEL received a BS degree in Chemistry and Physics from Geneva College and was awarded the PhD degree in Inorganic Chemistry from the University of Michigan in 1963. He was an Instructor and Assistant Professor of Chemistry at the University of North Carolina at Chapel Hill from 1963 to 1967. He joined the Army Research Office in 1967 and currently serves as Chief, Inorganic and Analytical Branch, Chemical and Biological Sciences Division. He also holds the position of Adjunct Associate Professor of synthesis of biologically active boron analogs of amino acids and his work in this area with Professors A. T. McPhail at Duke and I. H. Hall at UNC has been featured several times in C&E News in the last several years. He has contributed to the organization of numerous workshops and symposia at the Army Research Office. He has been a seminar speaker and Hospitality Chairman for the local ACS section.

For Secretary:

Dr. JOHN A. MYERS joined the faculty of North Carolina Central University in 1971 as Associate Professor of Chemistry. He was promoted to Professor in 1980. He earned the BS degree in Chemistry from Carson-Newman College and the PhD degree in Organic Chemistry from the University of Florida. He also spent one year of postdoctoral study with Prof. Harold Hart at Michigan State University. His research interests include 1,3-dipolar cycloaddition reactions and the synthesis of isoindolequinones as potential radiosensitizers. For the past three years, John has served as the NCCU representative on the Hospitality Committee for the local ACS section.

Dr. WILLIAM L. SWITZER received his BS degree in Chemistry from Louisiana State University and both his MS and PhD degrees from the University of Illinois, Urbana. He worked for Beckman Instruments, Inc. in Fullerton, CA for three years before joining the faculty at North Carolina State University where he now is an Associate Professor of Chemistry. While in California, he served on the Executive Committee of the Orange County Section of the ACS as Chairman of the Education Committee. In North Carolina, he has served on the Hospitality Committee and the Education Committee and has served on the Executive Committee as Editor of the TarHelium for 4 years.

For Councilor:

Dr. MAURICE BURSEY took all his degrees from Johns Hopkins (PhD '63) and, after postdoctoral appointments at Hopkins and Purdue, has spend all his academic career at Chapel Hill. In his past three years on the Council of the ACS, he was appointed first an associate and then a voting member of the Local Section Activities Committee, he has served on its subcommittees on academic sections, budget, speakers service, current local section issues, and annual reports review, and has helped to run the Southeastern

Conference of Newly Elected Local Section Officers in Atlanta; next year he expects to be host of that meeting. He also is chairman of the Southeastern Regional Meeting's Steering Committee. After serving on our committee to plan the proposal to host the 1984 meeting in Raleigh, Dr. Burseley successfully defended the North Carolina Section's bid for the 1984 meeting against Chamber of Commerce programs from other cities two years ago. More recently he has chaired the Section's nominations committee and now chairs the continuing education committee. He also was the driving force for the founding of the North Carolina Section's high school programs committee last year, and as its first chairman helped to establish our first contacts with the North Carolina Science Teachers Association. He is the author of more than 180 publications, mostly in mass spectrometry.

Dr. FORREST W. GETZEN earned his BS degree at V.M.I. (1950 in chemistry) and his PhD degree at M.I.T. (1956 in physical chemistry). After spending five years with the Humble Oil and Refining Company as a research chemist, he joined the faculty at North Carolina State University in 1961, where he presently is Professor of Chemistry. He has been an active member of the American Chemical Society since 1958 and has served the N.C. Section in many capacities including Section Chairman (1980), Chairman-Elect (1979), Treasurer (1977-79), and Executive Board Member. Also, he has participated in the Polymer Group Subsection as Treasurer (1970-71) and Secretary (1971-72). His efforts to promote the field of chemistry in the area have been evident in services to the North Carolina Academy of Sciences, as Chairman of the Chemical Division (1970-71) and of the Research Grants Committee (1976-77), and the North Carolina Institute of Chemists, President (1970-73) and Director-at-Large for AIC (1974-77). He was Chairman of the N. C. Section of A.C.S. during its successful year's campaign to sponsor the 1984 Southeastern Regional Meeting in this area. He maintains an active research interest in surface chemistry and solution thermodynamics and has published many papers in these areas.

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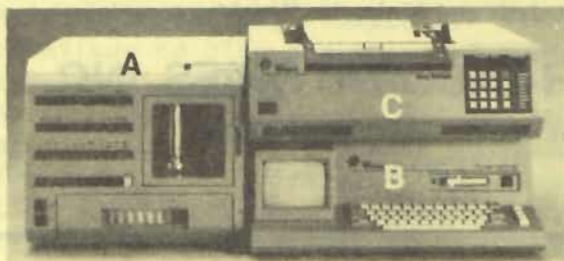
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For Alternate Councilor (3 year term):

Dr. ROBERT A. IZYDORÉ received his BS degree from the Pennsylvania State University and his PhD degree in Organic Chemistry from Duquesne University. He was an Instructor at the McKeesport Campus of the Pennsylvania State University and held a postdoctoral appointment at Duke University before joining the faculty at North Carolina Central University where he now holds the rank of Professor. Dr. Izydore has served as Treasurer of the North Carolina Section and currently is a member of the Membership Committee, Budget Committee, and Nominations Committee. He would like further to serve the Section as Alternate Councilor.

Dr. COLIN PITT was raised in England, obtaining his BS and PhD from the University of London before coming to the USA in 1960. He did postdoctoral research at Florida State University with Dr. H. M. Walborsky and at MIT with Dr. H. O. House before moving to the Research Triangle in 1963. He is now Director for Physical Sciences in the Chemistry and Life Sciences Group at RTI and an adjunct professor in the Chemistry Department of Duke University. He has been an alternate councilor for the N. C. Section for the past three years and is a member of the N.C. Board of Science and Technology. His professional interests are applications of synthetic and physical chemistry to medicine; these interests currently include polymeric drug delivery systems, therapeutic iron chelating agents, and marihuana.

For Alternate Councilor (1 year term):

Dr. STEVE A. BENEZRA received a BS in Chemistry from City College of New York in 1967 and a PhD in Chemistry from UNC-CH in 1971 working with Professor Maurice Bursey on physical organic aspects of mass spectroscopy and ion-molecule reactions. He has been employed by Burroughs Wellcome since 1965 as an analytical chemist and is currently a Group Leader and responsible for Analytical Development at the RTP

facility. His current interests are chromatography and automation. Dr. Benezra has been active in the continuing education of chemists in the Research Triangle area. He was one of the founders of the Triangle Chromatography Discussion Group and is currently chairman of the Group. He organized and participated in the two day 1981 local ACS short course on HPLC. He continues to serve on the local ACS section education committee.

Dr. DEREK J. HODGSON was born on July 1, 1942 in Watford, England, and received his early education in English schools. In 1961 he came to this country as an undergraduate, receiving the AB in Chemistry at Harvard University in 1965 and the MS (1967) and PhD (1969) at Northwestern University. In 1969 he came to North Carolina as Assistant Professor at UNC, and has remained here since then. He is presently Professor of Chemistry and Director of Graduate Studies at UNC. In 1980 he served as Distinguished Professor of Inorganic Chemistry at the University of Copenhagen. Dr. Hodgson's research interests include structural inorganic chemistry and structure-activity relationships in chemistry, and he is the author or co-author of more than 150 publications in those areas. He is currently editing a book entitled, "Structure-Function Relationships in Inorganic Chemistry". Dr. Hodgson has served the Section as Chapel Hill Social Chairman and as a member of the Nominating Committee; in addition, he served for several years on the Awards Committee, and was Chairman of that committee in 1978 and 1979.

BYLAWS VOTE SCHEDULED DEC. 15

For the second month, two proposed changes in the bylaws are published in the TarHelium. These changes will require a mail ballot instead of a vote at a Local Section meeting to amend the bylaws and to assess section dues. These amendments will be discussed at the November meeting and be voted on at the December meeting. In order to change the method of

amending the bylaws, we must follow the current bylaws which require a majority vote of a quorum at a Local Section meeting. A quorum is 5% of the membership or about 60 members. Please reserve December 15, 1981 and plan to attend this meeting to assure that we have a quorum for the vote.

Bylaw X: Finances

Section 1 - All members and National Affiliates assigned to the Section may be assessed annual local section dues. The amount of such dues shall be set by the Executive Committee of the Section, provided, however, that any change in dues must be approved by the Section members by mail ballot to be completed no later than March 1 of the year preceding the dues year. Forty-five days shall be allowed from the day of mailing of the ballots to the deadline for their receipt by the Secretary and this interval shall include at least one Section meeting at which the proposed change in dues will be discussed. Such a change requires the approval of a majority of the members voting.

Bylaw XI: Amendments

Section 1 - A proposed amendment to these bylaws shall first be submitted in writing to the Executive Committee. If it is approved by a majority of the Executive Committee, the secretary shall mail it to all members of the Section for a mail ballot, along with an appropriate explanation. Forty-five days shall be allowed from the day of mailing of the ballots to the deadline for their receipt by the Secretary and this interval shall include at least one Section meeting at which the proposed amendment will be discussed. The amendment shall be adopted if it receives the affirmative vote of two-thirds of the members voting by mail.

Delete Section 2, renumber sections 3, 4 as 2, 3.

A LETTER TO THE EDITOR

How can I RSVP for the Local Section Meeting when I do not even receive my '*!?' TarHelium until after the deadline?! -- Concerned Reader

Dear Reader - I regret that the TarHelium sometimes fails to reach you on time. Please do not stay away from the meeting if you missed the deadline, but do try to make reservations if you can. -- Editor.

MY APOLOGIES TO FISHER SCIENTIFIC

Accidentally the local address of Fisher Scientific was omitted from their advertisement last month. This address is 3315 Winton Road, Raleigh, N.C. 27604. Phone (919) 876-2351. I wish to thank all of our advertizers for supporting the TarHelium and hope that the Section will support them whenever possible.

-The Editor-

A TRIP TO THE ORIENT

The California Section of the ACS is sponsoring a three-week trip to the People's Republic of China in the summer of 1982. The cost will be about \$3,000. Anyone interested might contact me for further details. My address is printed on the back cover.

-The Editor-

* * * V O T E * * *

- Nov 5 Dr. MARVIN SIEGEL, "Arachidonic Acid Metabolism in a Granulocyte: Biomedical Applications of LC and TLC", Burroughs Wellcome Company, Triangle Chromatography Discussion Group, 8:00 pm, Conference Room, Chemical Industry Institute of Toxicology, Davis Drive, Research Triangle Park.
- 12 Dr. SAMUEL DANISHEFSKY, "New Strategies for Stereospecific Synthesis", 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- 12 Dr. RICHARD D. GILBERT, "Anisotropic Solutions of Cellulose and Cellulose Derivatives", ACS Lecture, 7:30 pm, Faculty Club, NCSU.
- 12 Dr. JOHN R. SHAPLEY, "Aspects of the Chemistry of Mixed-Metal Cluster Compounds", University of Illinois, 11:00 am, Room 308 Venable Hall, UNC-CH.
- 16 Dr. HERBERT O. HOUSE, "Potential Applications of Conformational Transmission to Stereoselective Synthesis", Georgia Tech, 3:30 pm, Room 124 Dabney Hall, NCSU.
- 20 Dr. KENNETH D. JORDAN, "Electron Impact Spectroscopy on Hydrocarbons", University of Pittsburgh, 3:30 pm, Room 103 Gross Chemical Lab., Duke.
- Dec 4 Dr. GERALD D. FASMAN, "Prediction of the Conformation of Proteins: Application to Biological Problems", Brandeis University, 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- 7 Dr. JOHN H. DAWSON, "Metal Ion Coordination Environment of Cytochrom P-450", University of South Carolina, 3:30 pm, Room 124 Dabney Hall, NCSU.
- 11 Dr. KENNETH WIBERG, "Bent and Twisted Cyclobutanes", Yale University, 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.

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