



The TarHelium

Volume 23, Number 2

October 1992

*****Ballot Enclosed p. 14*****

NORTH CAROLINA SECTION AMERICAN CHEMICAL SOCIETY

SYMPOSIUM ON RECENT ADVANCES IN MASS SPECTROMETRY

**Sixth Annual North Carolina Section Conference
American Chemical Society**

October 15-17, 1992

Program and Registration Information: pp. 15-18

Polymer Group: October 8, 1992. Speaker: R. Ottenbrite, Virginia Commonwealth University, "Polymeric Drugs and Drug Systems". Social Hour at 5:30 p. m., Dinner at 6:30 p. m. and Lecture at 7:30 p. m. at the NCSU Faculty Club. Reservations by noon, October 6, with Walter Pawlowski (919) 543-2243.

Magnetic Resonance Group: The 24th Southeastern Magnetic Resonance Conference, SEMRC, will be held at the McKimmon Center on the campus of North Carolina State University in Raleigh from Thursday, October 8 through Saturday, October 10, 1992. Contact the Organizing Committee, Biochemistry Department-7622, North Carolina State University, Raleigh NC 27695-7622. Phone (919) 515-2581. The speaker list is given inside on p. 21.

The TarHelium
c/o William L. Switzer, Editor
Department of Chemistry-8204
North Carolina State University
Raleigh NC 27695-8204

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Deadline for November Publication is Friday, October 9, 1992
*****Ballots must be postmarked by October 31, 1992*****

The TarHelium is a publication of the North Carolina Section of the American Chemical Society. The views expressed herein are not necessarily those of the Section.

W. L. Switzer, Editor
S. T. Purrington, Assistant Editor
W. L. Switzer, Advertising Manager

Please direct all correspondence and submissions to the attention of the editor:

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If you wish to receive announcements of Local Section ACS events by electronic mail, please submit your e-mail address to the Internet address given above for the Editor.

Deadline
November Publication
Friday, October 9, 1992

Publication Policy

The *TarHelium* will be published eight times a year but the format may change to suit the material that must be published. Public lectures and seminars as well as announcements of interest to the ACS membership will be listed as deemed appropriate by the editor and as space permits. Short commentaries or contributed articles will also be considered. Also, we are happy to publicize, free of charge, any job openings for chemists. (We also accept paid advertisements for more extensive recruiting announcements.) The **Deadline** for each publication is usually the end of the first week of the month prior to publication, but may be earlier if monthly meetings are scheduled earlier.

Late Mailings

A never ending problem with *The TarHelium* is prompt delivery. For example, the September issue was placed in the mail on August 24 and was delivered to some zip codes as early as August 25. However, some companies in the RTP did not receive the issue until September 4. There is rarely trouble with prompt delivery to home addresses. One solution is to change your mailing address with the National Office to your home address. However, if you receive your copy late, the Editor would like to know. Assuming that the problem lies with the mail system, the Editors will attempt to work with the post office where the issue was mailed. Individuals who complain to the mail system at the receiving end will surely help assure prompt delivery too.

1992 GLAXO-UNC SYMPOSIUM FRONTIERS IN CHEMISTRY AND MEDICINE REGISTRATION FORM

NAME	AFFILIATION

BUSINESS ADDRESS	

TITLE	TELEPHONE NUMBER
___Registration* \$25.00	___Student Registration* \$10.0
___Registration/Banquet \$60.00	___Student Registration/Banquet \$30.00
*Lunch is included	___LATE FEE \$10.00 (If after October 1)
Registration DEADLINE is <u>October 1, 1992</u> TOTAL ENCLOSED \$_____	

Make checks payable to: Department of Chemistry, UNC-CH

Mail registration for and check to: Ms. Becky Smith
Department of Chemistry, CB#3290
University of North Carolina
Chapel Hill NC 27599-3290
Phone: (919) 962-2172 FAX: (919) 962-2388

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Fourth Annual Glaxo-UNC Symposium Frontiers in Chemistry and Medicine

The Division of Chemistry at the Glaxo Inc. Research Institute and the Chemistry Department at the University of North Carolina, Chapel Hill present the Fourth Annual Symposium on Frontiers in Chemistry and Medicine. The symposium will be held at the Friday Center in Chapel Hill, November 1-3, 1992.

Program

Sunday, November 1, 1992

6:00-8:00 p. m. Registration with Wine and Cheese Reception at the Friday Center

Monday, November 2, 1992

8:45 a. m. M. Ross Johnson, Vice President, Division of Chemistry, Glaxo
Joseph Templeton, Chairman, Department of Chemistry, UNC-CH

9:00 a. m. "Towards the Estimation of Binding Constants in Aqueous Solution", Prof. Dudley Williams, University of Cambridge, United Kingdom

10:15 a. m. Coffee Break

10:45 a. m. "Inhibition and Inactivation of Serine Thiol Proteases", Prof. Robert H. Abeles, Brandeis University

12:00 noon LUNCH

2:00 p. m. "Why is the Spliceosome a Ribonucleoprotein Machine?", Prof. Christine Guthrie, University of California at San Francisco

3:15 p. m. Refreshment Break

3:45 p. m. "Targeting DNA and Transition Metal Complexes", Prof. Jackie Barton, California Institute of Technology

5:00 p. m. ADJOURN

6:30 p. m. RECEPTION

7:00 p. m. SYMPOSIUM BANQUET

"Academic Industrial Relations", Prof. Ernest Eliel, University of North Carolina, Chapel Hill

Tuesday, November 3, 1992

9:00 a. m. "Asymmetric Catalysis for Drug Synthesis", Prof. Barry Sharpless, Scripps Research Institute

10:15 a. m. Coffee Break

10:45 a. m. "Studies in the Chemistry-Medicine Continuum: Taxol, Phorbol, and DNA-Cleaving Agents Studies", Prof. Paul Wender, Stanford University

12:00 noon CLOSING REMARKS

Section Nominated for Award

The letter below was received from the Chairman of Local Section Activities. I wish to thank Jim Chao, 1991 Chairman, for the work that he did on behalf of the Section that led to this recognition.

-Charles G. Moreland, Chairman

Dear Dr. Moreland:

On behalf of the ACS Committee on Local Section Activities, I am pleased to inform you that the North Carolina Section was nominated for one of the 1992 ACS awards for Outstanding Performance by Local Sections. You and the other members of your Section are to be congratulated for the truly excellent program which your Section conducted during 1991. As tangible recognition of your activities and your nomination, a certificate of excellence will be sent to your Section in September.

This award nomination recognizes the hard work of many officers and the support and enthusiasm of the Section membership; together you have carried out an exemplary program of service to your communities. The image of chemistry and of chemists is built upon and sustained by the personal activities of ACS members at the local level. Your dedication to the goals of the Society and willingness to provide service beyond that which is expected set an example for others to follow.

The Midland and Rochester Sections were selected as the award co-winners for your size category and will receive the ACS Award for Outstanding Performance by Local Sections at the reception for local section officers and tour speakers in Washington on August 25 at 4 p. m. in the Ballroom of the Hotel Washington. The award winners have been invited to prepare posters for display at the reception to depict their outstanding programs and activities. We encourage you to attend the reception to see what successful activities other sections have been able to carry out and to share your section's successes with us.

Again, on behalf of the members of the committee on Local Section Activities, I extend sincere appreciation for an outstanding year and wish you all continued success in your local section programs.

Sincerely,

Valerie J. Kuck
Chairman, LSAC

Job Information

Reichhold Chemicals: Human Resources Department, Reichhold Chemicals, Inc., P. O. Box 13582, Research Triangle Park NC 27709-3582. **Analytical Chemist;** R & D Facility, B. S. Chemistry Required. Entry level position in analytical lab of R & D group to perform wet chemical analyses and wet chemical method development on a variety of polymer samples. Experience in wet chemistry, AA and thermal analysis desirable. **Sr. Analytical Chemist;** R & D Facility, B. S. Chemistry Required. Minimum 5 years experience in SEM, EDXRA and TEM required. Experience with microtome, polymer analyses and other analytical techniques preferred.

RTI: Office of Human Resources, P. O. Box 12194, Research Triangle Park NC 27709-2192. In its August 31 listings of current openings at the Research Triangle Institute, the following positions were listed: **Postdoctoral Chemist;** Ph.D. in organic chemistry with experience or training in organic synthesis. Will synthesize novel organic compounds. **Analytical Chemist I;** B.S./B.A. in chemistry. Will perform chemical analyses. **Analytical Chemist I/II;** B.S. in chemistry with 0-5 years of experience. Will perform wet chemistry sample preparation, atomic spectroscopy and electrochemistry for inorganic analysis. **Chemist I;** B.S./B.A. in chemistry. Will participate in research to synthesize novel organic compounds. **Chemist I/II;** B.S./B.A. in chemistry training or experience in analytical methods and instrumentation preferred. Duties: analysis of test chemicals in biological matrices, chemical characterization, stability studies of test chemicals. Will involve the use of HPLC, GC, UV, NMR, MS, ICP or AA analysis. **Chemist I/II;** B.S./B.A. in chemistry. Will conduct studies of the metabolism of drugs and environmental chemicals and analyze biological fluids for these chemicals. **Chemist I/II;** B.S. in chemistry. Experience with mass spectrometers and GC/HPLC analyses preferred. Will operate mass spectrometer and assist in the development of chromatographic analyses in the performance of metabolism research. **Chemist I/II;** B.A./B.S. in chemistry with training or experience in modern chromatographic and spectral techniques preferred. Will provide chemistry support for toxicity studies, method development, sample analysis, stability studies, bench chemistry and report writing. **Chemist I/II;** B.S. in chemistry with 1-2 years of experience in chromatography and chemical analysis. Will assist in methods development and perform chemical analysis. **Chemist II;** B.S./M.S. in chemistry. Experience in the operation and maintenance of quadrupole mass spectrometers is essential. Experience with HP model #5988/5989 is preferred. Must also have experience with GC and HPLC. Will operate mass spectrometer and develop chromatographic analyses in support of metabolism and natural products research. **Postdoctoral Chemist** (3 positions); Ph.D. in organic chemistry with training or experience in organic synthesis. Will conduct the synthesis of organic compounds. **Postdoctoral Chemist;** Ph.D. in chemistry with training in analytical chemistry and material products. Will conduct studies on disposition and metabolism of taxol.

interests fall in the area of synthetic organofluorine chemistry. Her research publications include 25 papers and 1 patent. Suzy is a member of both the Fluorine and Organic Divisions of the American Chemical Society. She serves on the Executive Committee of the Fluorine Division and has been Secretary-Treasurer, Chairman and Alternate Councilor of the NC Section of the ACS.

LOOKING FOR A JOB?

ACS offers employment services and professional development programs to all of its members seeking employment. Below is a descriptive list of such programs offered by the Offices of Employment Services and Professional Services to assist members.

- C&EN situations wanted ads placed by employed ACS members and student affiliates are accepted by Centcom, ACS's advertising agency, at 90 cents per word per insertion, no minimum charge. Unemployed ACS members, student affiliates, and retired members may place free situations wanted ads; certain restrictions apply.
- CHEMJOBS USA is a weekly bulletin which contains classified ads seeking the chemical professional from up to 20 newspapers and publications throughout the U.S. The ads are abstracted into an easy-to-read format. A three month subscription to this publication costs only \$40.
- National Employment Clearing Houses at National and Regional Meetings give job applicants the opportunity to interview with employer representatives. ACS national meeting registration fees can be waived for UNEMPLOYED ACS members who register as job applicants at NECH at national meetings; waivers of registration fees for unemployed members registering for NECH at regional meetings are left at the discretion of the region. Registration for NECH itself is free at both national and regional meeting.
- The ACS Year-Round professional Data Bank is a computerized data bank which includes a cross-section of scientific professionals who are seeking employment. This important service makes available information on these individuals to interested employers who seek assistance of Employment Services for their recruiting needs. The data bank is not confidential, operates on a year-round basis, and is free to ACS members and student affiliates. With about 1000 chemical professionals already in the bank, the ACS is able to offer recruiters top-flight chemists in a wide variety of fields, and will have made about 6000 referrals to scientific employers in 1991.
- ACS Year-Round Confidential Employment Listing Service. This service offers the same service as the ACS Professional Data Bank. However, for a modest charge, ACS members can have confidentiality assured.
- Employers Mailing List is the mailing list used to solicit employers for ACS employment services; it is arranged by state, and can be purchased for a small fee. Use of this mailing list is restricted to personal use only.
- There will be a special resume review section for ACS members unable to attend National & Regional Meeting NECHS, beginning in spring 1992. The purpose of this section will be to provide employers with the resumes of ACS members who are looking for jobs, but who are unable to attend the meetings for one reason or the other.

For more information on the above services, call 1-800-227-5558, press 4.

the kinetic and magnetic properties of polymethylene chain biradicals. For this work he was awarded the University's Bernard Smaller Award for Research in Magnetic Resonance in 1988. As a National Science Foundation Postdoctoral Fellow, he was at CalTech from 1988 to 1990, working in Nate Lewis's Laboratory on the kinetics of charge transfer at the semiconductor/liquid interface. Since 1990, he has held the position of Assistant Professor of Chemistry at the University of North Carolina at Chapel Hill. His research interests are as diverse as his background, ranging from the synthesis of unusual ring systems by olefin metathesis to the fundamental study of through-bond vs. through-space electronic couplings in organic reactive intermediates. Additionally, he applies time-resolved magnetic resonance techniques to problems in interfacial and polymer science, especially to those involving diffusion and molecular dynamics.

AVRAM GOLD received a Ph. D. in physical organic chemistry from Harvard University in 1971. After postdoctoral fellowships in physical organic chemistry and organometallic synthesis and an M. S. in Environmental Sciences from the Harvard School of Public Health, he worked as a research associate at the Harvard School of Public Health before coming to the Department of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill in 1979. He is currently a professor in the Department of Environmental Sciences and Engineering working on high valent iron porphyrin models for bioactivation of xenobiotics by the cytochrome P450 family of monooxygenase enzymes.

JACK PRESTON received a B. S. (1952) degree from Howard College and M. S. (1954) and Ph. D. (1957) degrees in organic chemistry from the University of Alabama. He joined Chemstrand Research Center (a Division of Monsanto Company) as a Research Chemist in 1957. He was promoted to Senior Research Chemist in 1963, to Associate Monsanto Fellow in 1965, to Monsanto Fellow in 1966, and to Senior Monsanto Fellow in 1974, a position he held until he took early retirement in late 1985. In 1986-87 he consulted for several major chemical companies, including Dow, Hoechst-Celanese and du Pont. For the latter he served as an expert witness at a trial in London concerning KEVLAR® patents. In 1987 he was appointed Senior Research Scientist at RTI where he carries out research with post doctoral students on high performance polymers. He had a long (1977-1991) and fruitful (22 publications) association with the late Professor Bill Krigbaum and was Adjunct Professor at Duke University from 1987-1992; he currently is Adjunct Professor at the University of North Carolina at Chapel Hill (1988-) and North Carolina State University (1989-). He has received 33 U.S. patents, has authored or co-authored seventy-two papers, has written twenty-one articles in books, and has edited or co-edited six books. In 1967 he was elected as the first Chairman-Elect of North Carolina ACS Polymer Group and was Chairman for 1967-68. Recently, he has served as Secretary (1990-91), Chairman-Elect (1991-92), and Chairman (1992-93) of that organization. He joined the National ACS as a student in 1952 and has been a full member since 1957.

SUZANNE T. PURRINGTON has been at North Carolina State University since 1976 where she is presently Associate Professor of Chemistry. She received a B. A. in Chemistry from Wheaton College (Massachusetts) in 1960 and a Ph. D. in 1963 from Harvard University under the direction of Paul D. Bartlett. Her research

Job Fair at NCSU Open to Public

The 15th Annual Minority Career Fair will be held Oct 8, 1992 from 9:00 a. m. - 3:30 p. m. in the University Student Center on the NCSU campus. It is sponsored by the Black Students Board (BSB); a programming committee of the Union Activities Board. Approximately 100 companies will be in attendance at this year's fair. Internships, co-op positions, permanent and summer employment will be offered.

The Minority Career Fair was created fifteen years ago by an ad hoc committee at NCSU personnel because African-American students were finding it difficult utilizing the Career Planning and Placement Center. Their objective was to introduce these students to prospective employers in a setting that would benefit both the student and the employer.

The Fair has developed into a very popular college employment fair for participating companies. This is a unique opportunity for students to capitalize on making positive strides towards securing their employment futures. The Fair is open to the public. For information, call Ron Foremen or Christine Wise, Division of Student Affairs, NCSU, 515-2451.

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Vigi Bezwada

Membership Campaign 1992: You can help us for 1992 by contacting any member of the committee if you have prospects for new members. Our section receives a commission for each new member, but only if the application form is marked as from the North Carolina Section.

NCACS Membership Committee

George Brine, RTI
Robert Higgins, Fayetteville St.
Larry Knecht, NCSSM
Harold Teague, Pembroke State
Larry Bowen, NCSU (chair 515-2939)

Michael Crimmins, UNC-CH
Robert Izydore, NCCU
Reginald Shiflett, Meredith
Jeff Gold, Duke

Ingold in London, he taught at Reed College and joined the faculty at UNC-CH in 1956. At UNC-CH he is a University Distinguished Professor, and has been Chairman of the Chemistry Department, Vice Chancellor for Development and Public Service and Interim Provost. His research area has been transition metals organometallic chemistry, ranging from early work with ferrocene to later work with organometallic chemistry of Pt, Pd, Ir, and Co. Throughout his career he has worked with the Research Triangle development, serving the Research Triangle Foundation as Associate Director for Chemistry (1957-58), member of the Board since 1886, Chairman of the Executive Committee and Corporate Secretary. He serves on the Boards of Governors of RTI (1965) and TUCASI (1975) and was president of TUCASI for 5 years. He was on the Executive Committee of the NC Board of Science and Technology under five Governors. Dr. Little served as Chairman of the NC Section (1966), General Chairman of the Southeastern Regional ACS Meeting (Raleigh, 1984) and has been Councilor since 1986. He has been on the National ACS Budget and Finance Committee and the Committee on Patents and Related Matters. He received the Marcus Hobbs Award for service to the NC Section in 1990. Other honors include the Thomas Jefferson award from UNC-CH, the Distinguished Faculty Service Award from the UNC-CH General Alumni Association, and Distinguished Alumnus Award and an honorary D. Sc. from Lenoir Rhyne College. Bill Little is currently Interim Vice President for Academic Affairs and Senior Vice President of the University of North Carolina.

GEORGE M. WYMAN was educated at Cornell University where he received his doctorate with a major in Organic Chemistry in 1944. After five years in industry he joined the staff of the National Bureau of Standards (now NIST) as a research chemist. In 1954 he moved to the Army's Natick Laboratories as Chief of its Spectroscopy Laboratory. This started a long career with the Department of the Army which included two assignments with the Army's European Research Office (1957-60 and 1977-83) and his long tenure as Director of the Chemistry (later Chemical & Biological Sciences) Division of the U. S. Army Research Office (1960-1977 and 1983-85). He is the author of over 30 publications in organic photochemistry. In 1972-73 he was a Guest Professor at the Max Planck Institute for Biophysical Chemistry, Goettingen. Since his retirement from ARO he has held the position of Adjunct Professor in the Chemistry Department of the University of North Carolina-Chapel Hill and he has acted as a consultant to around sixty chemistry departments on the subject of research support. He served as Chairman of the Education Committee (1985-86) and Chairman of the Committee on University-Industry Interactions (1986-87) of the North Carolina Section of the ACS. He is a member of the Task Force on Federal Funding of the ACS Board-Council Committee on Science. He is completing his fiftieth year of ACS membership.

Alternate Councilor:

MALCOLM FORBES was born in Belfast, Northern Ireland in 1960 and emigrated to the U. S. in 1963. He split his undergraduate education between American International College in Springfield, Massachusetts and the University of Illinois at Chicago, completing a B. S. degree in Chemistry in 1983. He obtained a Ph. D. in the laboratory of Gerhard Closs at The University of Chicago in 1988, working on

Councilor:

ERIC BIGHAM began his chemistry career at N. C. State University where he received a B. S. in 1969. His M. A. and Ph. D. degrees were earned at Princeton University. From 1973 until 1978, he worked as research scientist at Pfizer Central Research in Groton, Connecticut. Since 1978 he has been a senior research scientist at Burroughs Wellcome Co. Since 1981 he has served on the Executive Committee and held the following positions in the NC Section of the ACS: 1982-84 Organizing Committee for the 1984 Southeast Regional Meeting of the ACS (SERM-84); 1981-84 Treasurer; 1985 Chairman-Elect; 1986, Chairman; 1987-89, Past-Chairman; 1981-86, Budget Committee; 1982-86, Hospitality Committee; 1987, Nominations Committee; 1987, Organizer of First NC Section Leadership Retreat; 1987-88, Academic-Industrial Interface Committee; 1988-90 Awards Committee; 1990-92, Alternate Councilor; 1991, Recipient of the Marcus Hobbs Service Award; 1992-, Councilor.

JAMES LEE CHAO was born September 4, 1954 in Lafayette, Indiana. He grew up in the Midwest and received his B. S. in Chemistry from the University of Illinois-Champaign/Urbana in 1975 and his M. S. from the same institution the following year in Physical Chemistry. He received his Ph. D. in Physical Chemistry from the University of California-Berkeley in 1980. He is presently an Advisory Scientist in the Materials Engineering Laboratory at IBM-Research Triangle Park, NC. He is also active as an Adjunct Associate Professor in the Department of Chemistry at Duke University. His research interests include the development of novel analytical methods for characterizing materials, primarily using infrared and photothermal spectroscopies. He has contributed to the development of stroboscopic interferometry for time-resolved spectroscopy, the development of one of the first commercial bench-top FTIRs, an early FTIR spectro-electrochemical sampling accessory, an FTIR photothermal beam deflection technique, step-scan FTIR, and 2-D FTIR spectroscopy. He has studied the time-resolved properties of photochemical bleaching of dyes, electrochemical recharging of lithium battery cells, and electric field modulation of liquid crystals. The interpretation of the photothermal phase of materials such as polymers has contributed to the ability to perform photoacoustic depth profiling. Recently, he is also investigating the use of spectroscopic methods for automating the high speed sorting of recycled plastics. Dr. Chao also serves as the project leader for corrosive gas testing at IBM-Research Triangle Park, and is primarily involved with the development of improved methods for conducting analytical testing of connectors by understanding on a fundamental level the chemical aspects of corrosion. He is active in both IBM internal as well as external standards organizations for corrosive gas testing. He is presently the technical coordinator for an IBM Shared University Research Contract with Professor Joe Payer at Case Western Reserve University investigating corrosion mechanisms in connectors. He is a member of the Society for Applied Spectroscopy, the Coblentz Society, the New York Academy of Sciences, Sigma Xi, and the American Chemical Society where he served as Chairman of the North Carolina Section in 1991.

WILLIAM F. LITTLE received his B. S. degree from Lenoir Rhyne College and his M. A. and Ph.D. from UNC-CH. After post-doctoral work with Sir Christopher

Equipment Donations Sought

The NC School of Science and Mathematics (NCSSM) in Durham sponsors a "Free Store" of lab equipment for schools in the state. This "Free Store" has proven very popular with teachers across the state, but its existence depends on surplus equipment donations. More than two dozen teachers have been thrilled to carry away useful lab equipment from the collected surplus items at the NCSSM. Teachers attending workshops at the NCSSM this past summer nearly cleaned out the store, however, and donations are now urgently needed to keep this worthwhile service project alive and healthy. How about some help?!?!?

Most schools have woefully inadequate budgets for the purchase of scientific laboratory equipment; whereas, research laboratories occasionally need to dispose of surplus equipment when projects and personnel change. The NCSSM has secured a storage location and is establishing a service to receive usable surplus lab equipment out of which teachers from across the state can select items cost free for their school laboratories whenever they visit the school in Durham. Since storage space is limited, acceptance of donated items must be reasonably selective; i.e., limited to equipment that is generally apparatus--no hazardous chemicals or large white-elephant instruments! Donated equipment will be picked up at your location by NCSSM personnel. For further information contact Dr. Laurance A. Knecht of the chemistry faculty at (919) 286-3366 directly (X229) or via the Science Department (X314). Let's get the surplus equipment into the school labs where it is so desperately needed!

Local News

Boron Biologicals, Inc.: Boron Biologicals, Inc. (BBI) has names Charles R. Krause president and chief operation officer. "Chuck Krause brings us 30 years of management experience in pharmaceutical-related industries," said Dr. Bernard F. Spielvogel, founder and chief executive officer of the Raleigh Biotechnology/biomedical firm. "He has been a consultant to BBI since April. Together we've developed a business plan that will take this company into a new phase of accelerated growth."

BBI also announced that it will purchase the Boron Neutron Capture Therapy (BNCT) technology of Callery Chemical Co., Callery PA. The purchase price was not disclosed. The BNCT technique delivers cell-killing radiation to cancerous tumors without harming surrounding normal cells. "The acquisition of Callery's BNCT technology will enable BBI to scale up its manufacturing of compounds for use in human clinical trials of new anti cancer drugs and treatments," said Spielvogel. "The BNCT technology intensifies our strong research and development effort in BNCT," he added.

Burroughs Wellcome: To support the restoration of critical services and supplies, BW is working through several state and local government and voluntary agencies in hurricane relief operations in Florida and Louisiana. The company expects to donate more than \$850,000 in products and cash. Free disaster relief packets of BW's

most commonly-stocked pharmaceutical products will be provided to all pharmacies that suffered losses to their pharmaceutical departments as a result of the hurricane.

Burroughs Wellcome: The anti viral medication Zovirax[®] brand acyclovir significantly reduced the duration and severity of chickenpox in otherwise healthy adults when given within 24 hours of the onset of the characteristic chickenpox rash, according to study results published in the September 1, 1992 issue of the *Annals of Internal Medicine*. The indications for Zovirax were expanded in February 1992 to include the use of Zovirax for the treatment of varicella, more commonly known as chickenpox. "Adult varicella, although uncommon, remains a serious problem and accounts for one fourth of all varicella-related fatalities in the United States," the authors wrote. "We showed that early acyclovir therapy significantly affected the clinical course of varicella." Chickenpox affects approximately 3.5 million people each year in the U. S. One to two percent of cases occur in adults. The illness is often more severe than in children and is associated with a longer course of disease and a 25-fold increased risk of death. Cost of the therapy for children is \$30-\$55; cost for adults would be approximately \$100.

Duke: On Saturday, September 26, the Department of Chemistry at Duke is holding a symposium on "Organic Reaction Mechanisms" honoring **Edward M. Arnett** who is retiring from the Department. Dr. Arnett is R. J. Reynolds Professor of Chemistry, a chair which he has held since 1980 when he moved to Duke from the University of Pittsburgh. He is a physical organic chemist whose principal research activity has included the area of acid-base interactions and solvent effects in organic chemistry. Other research interests have involved computer-based chemical information, stereochemistry of chiral surfactants in monolayers, and reaction calorimetry as a tool for the complete analysis of the kinetics and thermodynamics of organic reactions.

After completing his undergraduate and graduate education in chemistry at the University of Pennsylvania, he was research director with Max Levy and Company for four years and taught at Western Maryland College. Following postdoctoral research at Harvard, he moved to the University of Pittsburgh, where he served in the Department of Chemistry for twenty-three years before coming to Duke. He has been a visiting professor at a number of universities in the U. S., Canada and England. He has been an adjunct senior fellow of the Mellon Institute and is, at present, a senior fellow at the Institute of Hydrocarbon Chemistry, University of Southern California. He has been awarded a Guggenheim Fellowship, the James Flack Norris Award of the ACS, the ACS award in Petroleum Chemistry, the Arthur C. Cope Scholar Award, and the Distinguished North Carolina Chemist Award. He has served on the Petroleum Research Fund Advisory Board and the National Science Foundation Advisory Board for Chemistry. He is a member of the National Academy of Sciences.

Symposium Organizers are: Bertram O. Fraser-Reid, Jeffrey M. Gold and Ned A. Porter. Speakers include: Professor John Brauman, Stanford University; Professor Roderic Quirk, University of Akron; Professor Paul Dowd, University of Pittsburgh; Professor Paul Schleyer, University of Erlangen-Nurnberg; Professor George Olah, University of Southern California; Professor Fred Bordwell, Northwestern University

ogy Progress. A member of the American Chemical Society Council representing the Biological Chemistry Division since 1986, she has served on the Committee on Science since 1987. Last year she developed, organized and chaired an American Chemical Society Presidential Select Conference, at the Carnegie Institution of Washington. The subject was Expanding the Chemistry/Biology Interface: the Education of Future Scientists.

Treasurer:

JOAN BURSEY, the incumbent treasurer, took her B. S. from Creighton University, Omaha, in 1965 and her Ph. D. from the University of California, Berkeley in 1969. She was a postdoctoral research associate at UNC for two years, and then worked at Research Triangle Institute for thirteen. In 1984 she moved to Radian Corporation, where she is currently Senior Staff Scientist. Dr. Bursey's specialty is analytical chemistry, particularly mass spectrometry. She has developed many EPA methods based on mass spectrometry and continues in method development and other contract research problems. A member of Alpha Chi Sigma, she is on the editorial advisory board of *Biological Mass Spectrometry*, published by Wiley.

MIRTHA UMANA-MURRAY was born in Santiago, Chile and obtained the B. Sc. in Chemistry at the University of Chile in 1969. On a scholarship from the British Council, she received a Ph. D. in 1972 in Physical Chemistry from University College, University of London. She returned to Chile in 1973 and became an Assistant Professor of Physical Chemistry in the Engineering Department at the State Technical University in Santiago. In 1974 she traveled to Argentina to become an Assistant Professor of Physical Chemistry in the Chemistry Department at the University of Buenos Aires. In 1975 she took a Postdoctoral Fellowship at the Ames Laboratory in Iowa and in 1977 she came to the Chemistry Department at the University of North Carolina at Chapel Hill as a Senior Research Associate. In 1980 she became a Senior Research Scientist with Allied Corporation in Syracuse, New York. Dr. Umana-Murray returned to North Carolina in 1982 to become Research Analytical Chemist at the Research Triangle Institute. In 1989 she became an Independent Consultant with Duke University, Virginia Polytechnic Institute, and Research Triangle Park corporations including RTI, Glaxo, Van Dyck Corp., and Carolina Medical Corporation. Her administrative and organizational experience includes the RTI Policy Advisory Committee (1984-88, Chairwoman in 1987), the North Carolina Biotechnology Center Advisory Committee on Bioelectronics (1986-1987), and the Organizing Committee for the NC/ACS Symposium on Biosensors (1989). Her memberships include the ACS, the American Association for the Advancement of Science and the Association of Women in Science. Dr. Umana's scientific research interests include analytical and physical chemistry, surface chemistry and analysis, electron microscopy, X-ray analysis and biosensors. She has published over 40 papers and edited one book. Her other interests include being Owner and Principal Artist of Stained Glass Art of Chapel Hill (1989).

About the Candidates

Chair elect:

MICHAEL T. CRIMMINS, currently Associate Professor in the Department of Chemistry at The University of North Carolina at Chapel Hill, received his B. A. with Honors at Hendrix College in Conway, Arkansas and his Ph.D. in organic chemistry from Duke University. After one year as a National Institutes of Health Postdoctoral Fellow with Professor David Evans at the California Institute of Technology in Pasadena, California, he joined the faculty at UNC in 1981. Professor Crimmins received a Junior Faculty Development Award in 1983 and a Research Development Award in 1988 from UNC and was named a Fellow of the Alfred P. Sloan Foundation in 1986. He recently received a UNC Foundation Leave during which he was Visiting Associate Professor at Duke University (1991). He is currently an Acting Vice-Chairman of the Chemistry Department. His research interests include the development of synthetic methodology, particularly photochemical methods, and their application to the total synthesis of biologically active compounds. He is currently a member of the Administrative Board of the General College at UNC and has served on the Faculty Council. He has also been a member of the steering committee for the Glaxo-UNC Symposium since its inception. He presently serves on the Membership Committee of the NC Section of the ACS, has served on the Executive Committee as Secretary of the Section (1988-89) and has also been a member of the Nominating Committee. He also served as Chairman of the Canvassing Committee for the ACS Award for Creativity in Organic Synthesis for the National ACS (1991).

ELIZABETH C. THEIL is the University Professor of Biochemistry at North Carolina State University, a position she has held since 1988; she joined the Faculty at NCSU in 1971. Her research interests involve bioinorganic chemistry and molecular and developmental biology of gene expression. She is an active member of the bioinorganic chemistry community and a member of both the Inorganic and Biological Chemistry Divisions of the American Chemical Society. Her research uses ferritin as a model, the mineralized protein which concentrates and stabilizes iron to compensate for the incompatibility of Fe(III) aqueous chemistry with biological conditions. Ferritin is found in plants, animals and bacteria. The research program focuses on structure/function relationships for both ferritin protein and mRNA as well as regulation of ferritin related to nitrogen fixation in plants and red cell development in animals. Currently the major technical approaches used are genetic engineering of protein and mRNA, in addition to collaborative projects using XAS (EXAFS), X-ray diffraction and NMR spectroscopy. NIH recognized the program with a MERIT award in 1987. Professor Theil has had a long-term interest, locally and nationally, in both science education and research. She is a contributor to a major bioinorganic chemistry textbook to appear in the Fall of 1992. At NCSU she has held the positions of Director of the Honors Council and Chair of the University Research Committee. She was awarded the NCSU Research Award in 1986 and the O. Max Gardner Award in 1988. In addition to participation on NIH and NSF advisory panels since 1980, Prof. Theil is on the editorial boards of the Journal of Biological Chemistry, The Biology of Metals, The Journal of Inorganic Biochemistry and Biotechnol-

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ty; Professor Bob Moss, Rutgers University; Professor Wes Bentrude, University of Utah; and Professor Nick Turro, Columbia University.

NC Biotechnology Center: The Center announced that its 19,000 square foot Conference and Education Facility is available as a site for state, national and international meetings on the science, business, educational requirements and policy issues of biotechnology. The resources include:

- the two-story Glaxo Galleria, a place for receptions and displays.
- a 170 seat auditorium with full audiovisual capacity.
- a teleconferencing studio linked to the statewide two-way interactive network administered by MCNC.
- a large multi-purpose Congressional Room for presentations, meetings, receptions, meals and exhibits.
- five conference rooms, seating 16 to 50 people.
- a full-service library focusing on the business of biotechnology.
- the Teaching Demonstration Room, a small lab designed to test and teach new protocols for high school and community college biotechnology laboratories.
- five offices to serve biotechnology fellows from corporations, universities or government agencies working on biotechnology projects.
- interconnected audiovisual equipment to enable presentation, audio- and video-recording of information.
- the Ciba-Geigy Garden, a place for thought and interaction.
- a catering kitchen.

In other news, the Center announced 25 grants to support individual researchers. These included grants to the following Local Section members: **Dr. Eric J. Toone**, Department of Chemistry, Duke, **Dr. Charles C. Hardin**, Department of Biochemistry, NCSU, **Dr. Bruce W. Erickson** (jointly with Dr. Moo Jung Cho), Department of Pharmaceutics, UNC-CH, **Dr. Charles S. Johnson**, Department of Chemistry, UNC-CH, and **Dr. Richard R. Tidwell**, Department of Pathology, UNC-CH. The Center also announced 11 grants to NC Universities to boost their biotechnology research capabilities. These include grants to several institutions where Local Section members were involved in securing the grants: **Dr. Ned A. Porter**, Department of Chemistry, Duke, **Dr. Ruben G. Carbonell**, Department of Chemical Engineering, NCSU, and **Dr. George W. Roberts**, Department of Chemical Engineering, NCSU. The Center also announced its support to **Dr. Paul F. Agris**, Department of Biochemistry, NCSU for the Twenty-fourth Southeastern Magnetic Resonance Conference in October. This conference is supported also by the ACS Magnetic Resonance Group and the program for this meeting is described elsewhere in this issue. Also the Center announced awards for education to the following Local Section members: **Dr. Leonard D. Holmes**, Department of Physical Science, Pembroke State University and **Dr. Jafara S. Turay**, Department of Chemistry, St. Augustine's College.

NCSU: **Dr. Benny Freeman**, Chemical Engineering at NCSU has been awarded a 1992 NSF Young Investigator Award. The award is intended to highlight and enhance careers of outstanding beginning faculty, and to foster cooperation between academia and industry. The award, one of four, offers a maximum of \$100,000 per

Amendments to the Bylaws of the North Carolina Section of the ACS

1. BYLAW III: Territory and Headquarters

The territory of the Section shall be that assigned to it by the Society. ~~The headquarters of the Section shall be Raleigh, North Carolina.~~

2. BYLAW V: Organization

Section 3 - The Executive Committee shall consist of the officers of the Section, the three immediate past Chairmen, the Councilors, the Alternate Councilors, and the Editor of the ~~Local Section Publication~~ **TarHelium**.

3. BYLAW VI: Manner of Election and Terms of Office

Section 4 - The Chairman, with the advice of the Executive Committee, shall appoint a **the** Nominating Committee consisting of a chairman and two members, not later than March of each year.

Section 5 - ... No nominee's name shall be placed on the ballot unless ~~he~~ **the nominee** has stated ~~his~~ **a** willingness to serve if elected.

4. BYLAW IX: Meetings

Section 3 - Due notice of all meetings shall be sent to each member and Affiliate of the Section. A quorum for transaction of business at a Section meeting shall consist of the larger of fifteen or ~~5~~ **1**% of the members of the section. No business shall be transacted in the absence of a quorum.

~~[Section 4 - The Section shall endeavor to hold one of its regular meetings each year jointly with the North Carolina Academy of Science, so far as this is practical, and in any case, whenever the North Carolina Academy of Science meeting is within the limits of the Section.]~~

5. BYLAW XIII: Affiliation

The Section may be affiliated with the Triangle Council of Engineering and Science Societies, subject to the provisions of the Constitution and Bylaws of the SOCIETY.

Note: Items in **bold** are to be added. Items in ~~strikeout~~ are to be deleted.

Lynn W. Jelinski: Dr. Jelinski, Cornell University, Ithaca, New York, has a research program that centers around the application of novel NMR and MRI techniques to problems in biophysics and biomedical engineering. She is particularly interested in biological function and the relationship between structure and function in biomaterials. She has developed MRI methods to measure non-invasively the Young's modulus of arteries and to obtain velocity fields of hemodynamic flow at various parts of the heart cycle. She has also developed methods to measure ultra-slow flow and anisotropic diffusion, and has recently developed an NMR analog of a lock-in amplifier to measure the spatial distribution of fluid displacement.

A. Dean Sherry: Dr. Sherry, University of Texas, Dallas, Texas, has worked in a range of biological NMR areas including the structural and dynamic properties of Concanavalin A, and the use of lanthanide shift reagents for studies of molecular conformation. His recent work on lanthanides has focused on the development of new cationic shift reagents for cellular sodium and relaxation "contrast agents" used diagnostically in MRI studies. He has also been working on the use of carbon-13 labeling for studies of cellular metabolism.

Michael F. Summers: Dr. Summers, University of Maryland, Baltimore County, has a research program that includes NMR studies of metalloproteins and macromolecular interactions.

About the Bylaws Changes

The main purpose of amending the bylaws of our Section is to declare by name our affiliation with the Triangle Council of Engineering and Science Societies, TCESS, a newly formed organization in the Triangle to coordinate science and engineering activities of its member societies. At the same time, the bylaws are being amended to reflect better the operations of our Section. We have obtained approval from the national organization for these amendments if successfully passed by our membership.

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year for five years through federal and private funds. NSF provides up to \$62,500 annually. At their March 1992 monthly meeting, Dr. Freeman spoke to the ACS Polymer Group.

NCSU: The NCSU Chapter of Phi Lambda Upsilon (PLU), a national honorary society for the chemical sciences, purchased an optical scanner for the Department of Chemistry. This purchase was made possible through the sale of practice exam packet for general chemistry, which is a fund project of the society.

NCSU: Dr. Margaret Martin-Goldberg will be joining the Department on a half-time appointment for two years under the auspices of the National Science Foundation's Visiting Professorships for Women. Dr. Goldberg received the B. S. in chemistry from Boston College in 1976, the M. S. in analytical chemistry from the University of Michigan in 1978, and the Ph. D. in environmental sciences and engineering, UNC-CH, in 1987. She was Lecturer and Assistant Director of Undergraduate Teaching Laboratories at the University of Oregon prior to beginning her graduate work at UNC-CH. Her continuing employment is located at the Research Triangle Institute, where she is Research Analytical Chemist. Dr. Goldberg will be pursuing her research interests in aquatic chemistry in collaboration with Professor J. Osteryoung. She will also be developing and teaching a course in Environmental Chemistry.

Also **Professor Charles Cahill** will join us on a part-time basis for the 1992-93 academic year to reinvestigate the subject of chemistry after serving for many years as Provost, UNC-Wilmington. Professor Cahill obtained the A. B. degree in chemistry from Oklahoma Baptist University in 1955 and the M. S. and Ph. D. degrees in biochemistry from the University of Oklahoma School of Medicine, the latter in 1961. After spending some time at Oklahoma City University in various positions, he joined UNC-Wilmington, 1971 as Vice-Chancellor for Academic Affairs and Professor of Chemistry. He assumed the additional position of Provost in 1985.

Pembroke State University: The Chemistry Club at Pembroke State University, a Student Affiliate Chapter of the ACS, has recently completed a survey of lead levels in drinking water at 37 daycare centers in Robeson and Scotland counties. The project idea was spawned by members who sought a community service activity that utilized the expertise of their Club and, as one student put it, "to do something a little more useful than washing cars and selling doughnuts". The hazards of lead consumption, particularly for small children, has received increased attention in recent years, and a reduction in the current EPA maximum contaminant level (MCL) of 50 ppb is likely before the year's end. After securing modest funding from PSU Chancellor Joseph Oxendine, a committee was appointed to conduct the analyses comprised of Club members Hildelisa Woods, Denise Huggins and Leslie Lowry, and Professor Paul Flowers. Samples were collected from the daycare centers by Club members and analyzed via atomic absorption spectrometry after complexation/extraction of the lead. The analyses showed water lead levels ranging from 0 to 15 ppb, with an average value of 2.8 ppb and a median of 1.6 ppb. As part of the Club's reporting procedure, each participating daycare center was provided with their test result and the public information pamphlet "Chemical Risk: Personal Decisions" (ACS).

The project is now nearly complete, lacking only the final report which will be filed with Robeson and Scotland County Health Departments. Professor Flowers views the project as being successful in two respects. He said, "Aside from providing a community service, we've engaged PSU chemistry students in some worthy science activities with an obvious practical goal."

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ACS Awards Nominees Sought

Nominees for the 1993 Patterson-Crane Award are being sought by the Dayton and Columbus, Ohio, Sections of the ACS. The Biennial award, consisting of a \$2000 honorarium and a personalized commendation, is given in honor of Austin M. Patterson and E. J. Crane, previous editors of Chemical Abstracts.

An international honor, the Patterson-Crane Award acknowledges contributions to the field of chemical literature, especially chemistry documentation, chemical information storage and retrieval, and implementation and management of chemical information services.

Nominations for the award must be in writing and should discuss the nominee's contribution to the field as well as an evaluation of accomplishments. Material supporting the nomination should include a biography and bibliography of publications and presentations. Seconding letters are required.

Send one copy of the nomination materials to the Patterson-Crane Award Committee, Margaret Roach, Chairman, Wright State University, Dunbar Library, Dayton, OH 45435, for receipt by January 31, 1993. To receive an informative brochure about the award, contact M. Roach.

Nominations will be judged by a seven-member selection committee consisting of Dayton and Columbus Section members as well as the Chairman of the ACS Division of Chemical Information. The 1993 Patterson-Crane Award will be presented on May 11, 1993 at an awards dinner to be held in Dayton OH.

Southeastern Magnetic Resonance Conference Raleigh NC, October 8-10, 1992

The 24th Southeastern Magnetic Resonance Conference, SEMRC, will be held at the McKimmon Center on the campus of North Carolina State University in Raleigh from Thursday, October 8 through Saturday, October 10, 1992. The speaker list is given below. Contact the Organizing Committee, Biochemistry Department-7622, North Carolina State University, Raleigh NC 27695-7622. Phone (919) 515-2581.

Philip Bolton: Dr. Bolton, Wesleyan University, Connecticut, is well known for his study of DNA structure/function relationships by NMR. Recently, he has been developing theoretical and modeling approaches to DNA structure.

Wallace S. Brey: Professor of Chemistry at the University of Florida. He is Editor of the Journal of Magnetic Resonance.

G. Marius Clore: Dr. Clore, National Institutes of Health, Bethesda, Maryland, is a pioneer in developing and applying NMR methods to protein structure determination. He is and has been at the cutting edge of 3D and 4D heteronuclear methods for studying proteins which are often too large to characterize in detail by homonuclear methods. He also was one of the first to develop transfer nuclear Overhauser effect methods for studying labile complexes. He and Drs. Angela Gononborn and Ad Bax are senior scientists in one of the best recognized laboratories studying macromolecular protein structure by NMR in the world.

Jack Freed: Dr. Freed, Cornell University, Ithaca, New York, is recognized as one of the leading authorities on ESR. His treatment of magnetic resonance theory is read and admired by ESR and NMR scientists worldwide.

Betty J. Gaffney: Dr. Gaffney, John Hopkins University, Baltimore, Maryland, has a research program that focuses on: Lipoxygenases; Mono-nuclear, non-heme iron proteins; Electron paramagnetic resonance; the chemistry of eukarotic cells.

Al Garroway: Dr. Garroway is a physicist in the Chemistry Division of the Naval Research Laboratory, Washington, DC. His research interests involve solid state NMR imaging for materials science, polymer structure and dynamics by solid state NMR, and novel applications of NQR.

Joanne S. Ingwall: Dr. Ingwall, Harvard Medical School and Brigham Women's Hospital, has been interested in a broad range of physiological NMR studies, with primary emphasis on cardiac metabolism. Her recent work has focused on the role of the phosphocreatine shuttle in cardiac energetics, and the measurement of intercellular monovalent cations. Her group has carried out extensive magnetization transfer studies utilizing phosphorous-31 NMR, as well as sodium-23 NMR studies.

Thomas James: Dr. James, University of California, San Francisco, is recognized in the international NMR community for his work on nucleic acid structure by NMR. Recently, he has turned his attention to molecular dynamics and molecular graphics modeling.

- Oct 26- D. A. Tirrell, University of Massachusetts, "Macromolecular Signaling
27 Processes in Synthetic Bilayer Membranes. Part I. Mechanisms and Part II. Applications", Hanes Willis Lectures 3 and 4, 12:00 noon and 4:00 p. m., UNC-CH
- Oct 27 B. O'Grady, Naval Research Labs, "In Situ Surface X-ray Scattering on Gold Surfaces", NCSU
- Oct 29 P. T. Callaghan, Massey University, New Zealand, "Repetition and the Entanglement Tube Model of High Polymer Liquids: Evidence from Pulsed Gradient Spin Echo NMR, Dynamic NMR Microscopy and Rotating Frame Relaxation Measurements", UNC-CH
- Oct 30 M.-H. Whangbo, North Carolina State University, "Surprises in the Interpretation of Scanning Tunneling Microscopy Images", Duke

Duke (Chemistry) seminars at 3:30 p.m. Call Carolyn Bean at 660-1506 for information.

NCSU (Chemistry) seminars at 3:30 p.m. Call Joyce Weatherspoon at 515-2548 for information.

NCSU-BC (Biochemistry) seminars at 4:00 p.m. Call Pat Sullivan 515-2581 for information.

UNC-CH (Chemistry) seminars as noted. Call Becky Smith at 962-2172 for information.

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- Dec 7-8, 1992 Application of techniques to the restoration and conservation of historical buildings and art masterpieces, *Dr. P. Rossi-Doria*
- Dec 9-10, 1992 Characterization of coal, coke, active carbons and related materials, *Professor B. K. Mazumdar*
- Mar 8-9, 1993 Innovative characterization of catalysts, *Professor G. A. Melson*
- Mar 10-11, 1993 Introduction to the characterization of solid surfaces using a multi-technique approach, *Professor K. S. W. Sing*
- Mar (TBA), 1993 Complete characterization of pharmaceutical powders, *Dr. F. Carli*

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Ballot

Amendments and biographies of the Candidates may be found beginning on page 22. Only ACS members are eligible to vote. **Voting Deadline: Post-marked by Saturday, October 31, 1992.** Use the enclosed envelope and be sure to sign and print your name so that the Nominating Committee can verify membership. Mail the ballot to:

William Hatfield, Chairman Nominating Committee
Department of Chemistry, CB 3290
University of North Carolina
Chapel Hill NC 27599

Chair elect : (vote for one)

- Mike Crimmins, UNC-CH
 Elizabeth Theil, NCSU

Treasurer: (vote for one)

- Joan Bursey, Radian
 Mirtha Umana-Murray, Consultant

Councilor: (vote for two)

- Eric Bigham, BW
 Jim Chao, IBM
 William F. Little, UNC-CH
 George Wyman, retired, Consultant

Alternate Councilor: (vote for two)

- Malcolm Forbes, UNC-CH
 Avram Gold, UNC-CH
 Jack Preston, RTI
 Suzy Purrington, NCSU

Amendments to the Bylaws: (The Executive Committee recommends voting for each amendment.)

- | | | | | | | |
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| <input type="checkbox"/> | For | <input type="checkbox"/> | Against | <input type="checkbox"/> | Abstain | Amendment 5 |

Calendar

- Oct 1 M. Klein, University of Pennsylvania, "Computer Simulations of Micelles and Model Membranes", 4:00 p. m., UNC-CH
- Oct 1 J. Siedlow, Duke University, Botany, "Role of CMS-T in Maize Mitochondria, a Pore-Forming Protein in Disease Susceptibility", NCSU-BC
- Oct 2 J. P. Carver, University of Toronto, Biochemistry, "Oligosaccharides: How Can Flexible Molecules Act as Signals?", Duke
- Oct 5 R. Parr, University of North Carolina, Chapel Hill, "Applications of Density Functional Theory to Chemistry", NCSU
- Oct 8 R. Ottenbrite, Virginia Commonwealth University, "Polymeric Drugs and Drug Systems", **ACS Polymer**, NCSU Faculty Club
- Oct 8 G. M. Clore, Laboratory of Chemical Physics, NIDDK, NIH, "Protein Structures by NMR", Duke
- Oct 8 B. J. Gaffney, Johns Hopkins University, "Catalysis by Mononuclear, Non-heme Iron: Phenylalanine Hydroxylase and Lipoxxygenase", NCSU-BC
- Oct 8-10 Southeastern Magnetic Resonance Conference (SEMRC), (Speaker list p. 21), McKimmon Center, NCSU
- Oct 9 D. R. Williams, Indiana University, "Synthesis of Dolabellanes: a Novel Entry to Tricyclic Terpenes", Duke
- Oct 14 P. Hudrlik, Howard University, "Recent Studies of Migration Reactions of Functionalized Silanes", NCSU
- Oct 15-17 R. D. Voyksner, Organizer, Research Triangle Institute, "Frontiers in Mass Spectrometry", **ACS Symposium** (program enclosed p. 15), Duke
- Oct 15 W. E. Geiger, University of Vermont, "Electrochemical Probes to Molecular and Electronic Structures of Metal-Complexes", 11:00 a. m., UNC-CH
- Oct 15 P. Blackshear, Duke University, Medicine, "To Be Announced", NCSU-BC
- Oct 16 R. A. Jones, University of Texas, "New Organometallic Precursors to Electronic Materials", Duke
- Oct 19 J. Gland, University of Michigan, Chemical Engineering and Applied Physics, "*In Situ* Studies of Surface Reaction Processes", NCSU
- Oct 19 M. Ratner, Northwestern University, "Polymers, Electrolytes, Electrons and Conduction", 12:00 noon, UNC-CH
- Oct 22 S. M. Berget, Baylor College of Medicine, "How to Find an Exon", NCSU-BC
- Oct 22-23 D. A. Tirrell, University of Massachusetts, "Genetic Engineering of Crystals, Films and Surfaces. Part I. Biological Issues and Part II. Materials Issues", Hanes Willis Lectures 1 and 2, 4:00 p. m., UNC-CH
- Oct 23 J. E. Reardon, Burroughs-Wellcome, "Human Immunodeficiency Virus Reverse Transcriptase: A Pre-Steady-State Kinetic Analysis", Duke
- Oct 26 D. Bocian, University of California, Riverside, "Spectroscopic Characterization of Porphyrinic Assemblies", NCSU

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October 15-17, 1992

GENERAL INFORMATION

The Symposium is an excellent way to learn about advances in mass spectrometry. The objective of the conference is to provide an informal ambiance that will promote scientific exchange between mass spectrometrists and biomedical and environmental scientists that are interested in the use of mass spectrometry to solve analytical problems.

The Symposium will be held at the Washington Duke Inn and Golf Club. The Inn is situated on the grounds of Duke University and Offers an 18-hole, an indoor swimming pool and jogging paths. The deadline for registration at the hotel is **September 18, 1992**. Transportation from Raleigh-Durham airport to the Inn can be arranged through LTD Limousine Service at (919) 782-1547 or (800) 432-8008 at a cost of \$20.00 round-trip or by taxi.

Participants are invited to submit a one-page abstract for consideration as a poster presentation. Abstracts should be mailed to George Dubay, P. M. Gross Chemical Laboratory, Duke University, Durham NC 27706 by **September 18, 1992**. Applicants will be notified of a decision about their abstract by October 1, 1992. Dr. Dubay may be reached by phone at (919) 660-1532 or by FAX at (919) 660-1605.

The conference will begin on Thursday evening, October 15 and extend through Saturday, October 17. The conference fee is \$90.00 and includes a wine and cheese party and two luncheons. The deadline for pre-registration is **October 1, 1992**. A fee of \$120 will be charged to participants who register after this date.

Program

Thursday, October 15, 1992

7-10 p.m. Welcome Reception at Washington Duke Inn, Duke University

Poster Session: Friday, October 16 through Saturday, October 17

Friday, October 16, 1992

Session 1. Applications of Mass Spectrometry in Biology and Immunology, Daniel Kassel and Arthur Mosele, Presiding

- 8:30 Steve Carr, *Structural Characterization of Glycoproteins by Mass Spectrometry: Identification of Carbohydrates and other Post-translational Modifications of Proteins*
- 9:10 John Stults, *Recent Approaches to the Identification of Post-translational Modifications of Proteins*
- 9:50 Coffee Break
- 10:10 Pat Griffin, *Structural and Mechanistic Studies of Enzymes by Capillary LC/MS*
- 10:50 Jeff Shabanowitz, *Chemical Communications Between Cells Trying to Overcome a Viral Infection: Deciphering the Coded Messages by Tandem Mass Spectrometry*
- 11:30 Rob Anderegg, *Probing Secondary Structure of Proteins by Mass Spectrometry*
- 12:00 Lunch

Session 2. Clinical Applications of Mass Spectrometry, Dave Millington and George Dubay, Presiding

- 1:40 Tom Baillie, *Applications of Tandem Mass Spectrometry to Mechanistic Studies in Toxicology*
- 2:20 Simon Gaskell, *Mass Spectrometric Techniques for Lipid Mediators*
- 3:00 Fred Abramson, *New Techniques for Stable Isotope Detection in Metabolic Studies*

- 3:40 Coffee Break
- 4:00 John Coutant, *Comparison of LC/MS Techniques for Metabolic Analysis*
- 4:40 John Roboz, *Mass Spectrometric Diagnosis and Monitoring of Opportunistic Infections*

Session 3. Environmental Applications of Mass Spectrometry, Robert D. Voyksner and M. Judith Charles, Presiding

- 8:30 Ronald A. Hites, *Mass Spectrometry in the Environmental Sciences*
- 9:10 Leon D. Betowski, *Environmental Applications of LC/MS: EPA's Prospective*
- 9:50 Coffee Break
- 10:50 Graham Cooks, *Membrane Introduction Mass Spectrometry for Environmental Analysis*
- 11:30 Jack Henion, *Analytical Potential of Ion Spray LC/MS and LC/MS/MS for Characterizing Environmental Contaminants*
- 12:00 Lunch

Session 4. Environmental Applications of Mass Spectrometry, Gary L. Glish, Presiding

- 1:40 Robert D. Voyksner, *Electrospray and an Ion Trap Mass Spectrometer: Its Potentials and Pitfalls*
- 2:20 David Laude, *High Magnetic Field Electrospray Ionization Source for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry*
- 3:00 Brian Chait, *New Mass Spectrometric Approaches to the Analysis of Peptides and Proteins*
- 3:40 Coffee Break
- 4:00 Robert Cody, *Extreme Solutions for Mass Spectrometry*
- 4:40 Gary Glish, *Challenges for the Next Generation Quadrupole Ion Trap*