



The TarHelium

Volume 24, Number 2

October 1993

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Polymer Discussion Group Meeting

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The TarHelium

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

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Dated Material - Please Deliver Promptly

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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. 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 first of the month prior to publication.

Contributions for *The TarHelium*: Send to the W. L. Switzer, Editor, Chemistry-8204, North Carolina State University, Raleigh NC 27695-8204. Phone: (919) 515-2945, Fax: (919) 515-5079 and Internet: bill_switzer@ncsu.edu.

Advertising: All nine issues of the *TarHelium* will accept advertising. The cost is: \$25 per column-inch based on a 3.5 inch width; two-inch minimum. There is a 10% discount for advertising in four or more issues in a publication year which runs from September through April plus one issue in the summer. Contact Paul Flowers, Advertising Manager, Department of Physical Science, Pembroke State University, Pembroke NC 28372, Phone: (919) 521-6247 Fax: (919) 521-6649 and Internet: paf@pembvax1.pembroke.edu.

Donations to the NC Section of the ACS help sustain Local Section activities. All contributions are tax deductible and greatly appreciated.

Voicemail Information Line: (919) 541-7183 in the RTP

10-General ACS
11-Polymer Discussion Group
52-NMR Discussion Group
53-Mass Spectrometry Discussion Group
54-Triangle Chromatography Discussion Group

If you wish to change your membership status or *The TarHelium* mailing address, please submit your new address along with your old address in the form of a recent *C&EN* or *TarHelium* address label to:

Manager, Membership & Subscription Services
American Chemical Society
P. O. Box 3337
Columbus, OH 43210

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 for November Publication
October 1, 1993**

National ACS meetings:

March 13-18, 1994, San Diego
August 21-26, 1994, Washington
April 2-7, 1995, Anaheim
August 20-25, 1995, Chicago
March 24-29, 1996, Seattle
August 25-30, 1996, Boston

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Huffman Ad

TCDG Meeting

Thursday, October 14, 1993
North Carolina State University Faculty Club
4200 Hillsborough St.

Dr. Linda S. Sheldon
Research Triangle Institute

"Indoor Air Quality Methodology"

6:30 p. m. Buffet Dinner (\$10.50 per person)*
7:30 p. m. Presentation

* Reservations required for dinner only. Call John Hines (919)-541-6647 by 5:00 p. m. on Friday October 8th. A reservation is a commitment and must be canceled by 5:00 p. m. on Monday, October 11 to avoid being billed. Note that the TCDG will be charged by the Faculty Club for all reservations made in the group's name.

ABSTRACT: Over the past several years, public and scientific interest in indoor air pollution has increased significantly and indoor air quality is now recognized as an essential factor in maintaining human health and well being. Until recently, it was assumed that air pollution was generated primarily from outdoor sources (i.e. automobiles, factories, etc.), and that pollutant exposures could be controlled by controlling these outdoor sources. Many research studies have now demonstrated that this is not the case and there are many sources of airborne pollutants in indoor environments including homes, schools, and office buildings. Monitoring studies have shown that for many pollutants indoor concentrations are much higher than outdoor concentrations. These pollutants include volatile organic compounds, pesticides, formaldehyde, particulates, carbon monoxide, nitrogen dioxide, and radon. In some cases, indoor concentrations can be high enough to impact human health or productivity. This presentation will discuss methods for assessing indoor air quality, past research studies, and their findings.

All interested chromatographers are invited to attend! Neither ACS nor TCDG membership is required.

North Carolina Section Symposium Molecular Modeling: Integration of Theory and Experiment

Microelectronics Center of North Carolina
Research Triangle Park, North Carolina
October 21 - 23, 1993

You are invited to participate in the North Carolina Symposium on Molecular Modeling at MCNC, Research Triangle Park, NC, October 21-23, 1993. The scientific program will emphasize the integrated nature of modern chemical, biochemical, and pharmacological research that requires collaborative efforts of both theoretical and experimental scientists. The program will consist of invited lectures, posters, and software and hardware presentations. An informal picnic at Jordan Lake is planned for attendees.

Call For Posters

Participants are invited to submit poster presentations on any topic related to molecular modeling. MCNC will provide 30"x40" poster board for attendees to mount their materials. One-page abstracts of poster presentations will be included in meeting notes that will be distributed at the symposium. Abstracts must be submitted by October 4.

Presentations and Invited Lectures

Thursday, October 21: 5:00-7:30 p. m.; Registration, Reception and Vendor Demonstrations

Friday, October 22-Saturday, October 23, 8:30 a. m.-5:00 p.m. Vendor Demonstrations

Friday, October 22:

8:15-9:15 a. m. "Correlations vs. Simulations: Choosing the Appropriate Tool", Garland Marshall, Washington University

9:15-10:15 a. m. "Monte Carlo and Molecular Dynamics Simulations with OPLS Force Field", Julian Tirado-Rives, Yale University

10:30-11:30 a. m. "Determining Protein Folds by Inverted and Evolutionary Protein Folding Algorithms", David Eisenberg, University of California at Los Angeles

12:30-1:40 p. m. "Accuracy of Structure Determination and Structure Prediction: Interplay of Theory and Experiment", Axel Brünger, Yale University; this lecture will be broadcast on CONCERT

1:50-4:00 p. m. Poster Session

Saturday, October 23:

8:30-9:30 a. m. "Unlimited Expectations, Limited Applications", Gerald Fasman, Brandeis University

9:30-10:30 a. m. "Computational Studies on Peptides and Peptoids (Poly N-Substituted Glycines)", David Spellmeyer, Chiron Corporation

10:45-11:45 a. m. "A Combined Quantum Mechanical and Molecular Mechanical Approach for Modeling Chemical Reactions in Solution", Jiali Gao, SUNY at Buffalo

1:30-2:30 p. m. "Complexes of HIV Protease with Inhibitors: Modeled and Experimental Structures", Alexander Wlodawer, National Cancer Institute

2:30-3:30 p. m. "Site-Directed Drug Design: Methods and Applications", Richard Ogden, Agouron Pharmaceuticals

4:00-5:30 p. m. Panel Discussion: "Accuracy of Molecular Simulations"

Registration

Complete the attached registration form and return with payment by October 10 to MCNC, P.O. Box 12889, Research Triangle Park, NC 27709 Attn: R. G. McCloskey. Only checks and money orders will be accepted (no credit cards). Make checks payable to the ACS Symposium. Payment must be included with registrations. For further technical information, call Alex Tropsha at 919-966-2955 (e-mail tropsha@gibbs.oit.unc.edu) or Ken Flurchick at 919-248-1121 (e-mail kenf@ncsc.org). For administrative information, call Rebecca McCloskey at 919-248-1841 or send e-mail to gebuhr@mcnc.org.

Industrial participants: \$170
Academia and Government: \$65
Post-doctorates: \$35
Graduate students: \$25

Registration fees include the reception, the picnic dinner at Jordan Lake, two lunches, refreshment breaks, and meeting materials.

Registration Form

NC Symposium on Molecular Modeling: Integration of Theory and Experiment

Registration is limited and will be accepted on a first-come, first-served basis. Make checks payable to the ACS Symposium. Registrations will not be accepted without payment. Send your registration to the following address:

MCNC
P.O. Box 12889
3021 Cornwallis Road
Research Triangle Park, NC 27709
Attn: R. G. McCloskey

Name: _____

Position/Title: _____

Affiliation: _____

Address: _____

City: _____

State, Zip: _____

Phone: _____ Fax: _____

E-mail: _____

____ I will be presenting a poster and will require 30"x40" poster board to mount my presentation.

Indicate dietary restrictions:

Symposium Sponsors

North Carolina Section of American Chemical Society
 Becton Dickinson Research Center
 BIOSYM Technologies
 Burroughs Wellcome Company
 Molecular Design Limited
 Molecular Simulations, Inc.
 MCNC
 North Carolina Biotechnology Center
 Tripos Associates, Inc.

Travel And Accommodations

MCNC is located in Research Triangle Park, one mile north of I-40 and five miles from Raleigh-Durham International Airport.

The symposium hotel is the Holiday Inn in Research Triangle Park. The hotel rates are \$72 plus tax per night. Please make your reservation directly with the hotel by calling 919-941-6000. Indicate that the registration is for the ACS Symposium. The hotel registration deadline is October 1. After this deadline, reservations will be accepted depending on availability.

Organizing Committee

Alexander Tropsha, Chairman, UNC-CH
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Tudor Ad for Glassware

Polymer Discussion Group Meeting

Tuesday, October 26, 1993
North Carolina State University Faculty Club
4200 Hillsborough St.

V. Kabanov

""Snake-in-Cage' Polymer Composites from Polyelectrolytes"

5:30 p. m. Social Hour
 6:30 p. m. Dinner[†] (members-guests: \$15; students \$8)
 7:30 p. m. Lecture

[†]Reservations by noon, Thursday, October 22, with Walter Pawlowski (919) 543-2243 (IBM-RTP).

ACS Elections: About the Candidates

For Chair Elect:

Dr. C. Maurice Balik is an Associate Professor in the Department of Materials Science and Engineering at North Carolina State University. He received his MS and PhD degrees in Macromolecular Science from Case Western Reserve University, and his BS degree in Chemical Engineering and Mathematics from Grove City College. Dr. Balik's teaching and research interests lie in the area of polymer science. He has taught undergraduate and graduate courses in polymer science, polymer morphology and crystallography, diffraction, thermodynamics, and materials science. His current research centers around the study of sorption and transport of small molecules in polymers, and use of transport properties as a probe of amorphous polymer structure. He has also worked in the areas of polymer crystallization, ion-implanted polymers, and effects of acidic deposition on alkyd and latex paints. Since 1986, Dr. Balik has served as Treasurer, Chairman-Elect, and Chairman of the ACS Polymer Group of North Carolina, as President-Elect, President, and Education Committee Chairman of the Piedmont Coastal Section of the Society of Plastics Engineers, and has been the founder and faculty advisor to the student SPE chapter at NCSU since 1983. He also was the general chairman and co-organizer of two SPE Regional Technical Conferences held in the Research Triangle Park, and helped organize and present a short course in polymer science, sponsored by the NC Section of ACS in May 1990. Dr. Balik is also a member of the American Physical Society, the Materials Research Society and Sigma Xi. Dr. Balik received the Outstanding Teacher Award at NCSU in 1986.

Michael Riebe is a Group Leader in Analytical Chemistry at Glaxo Research Institute. He received his BA in Chemistry from Kalamazoo College in 1981, and PhD in Analytical Chemistry from the University of Wisconsin - Madison in 1987. After receiving his PhD, he was employed in the Chemical Research Division of The Polaroid Corporation until 1990. At Polaroid, he developed analytical instrumentation and methods in support of chemical manufacturing and film-coating processes. Since 1990, Michael has been at Glaxo Research Institute in the Analytical Chemistry department. He is currently involved in the development and regulatory approval of new pharmaceutical products. This involves leading a group which develops analytical methods for determining purity, stability and performance of diverse pharmaceutical dosage forms. His research interests include optical spectroscopy, systematic methods development for HPLC, and applications of artificial intelligence in analytical chemistry.

Michael was responsible for planning the Process Analysis and Computers in Chemistry Sections of the FACSS conference from 1987-1989, and is currently actively involved in program planning for National Meetings for the ACS Division of Analytical Chemistry. He has been the Editor of the ACS Division of Analytical Chemistry Newsletter ('91-present), and the Secretary of the NC Section of the ACS ('92-present).

For Secretary:

Carol Ann Haney, currently Interim-Director of the Mass Spectrometry Facility at North Carolina State University. She received her BA from Duke University, graduating *cum Laude*. She received her MS from the School of Public Health at the University of North Carolina at Chapel Hill. In 1983, she began working at NCSU as the Supervisor of the GC/MS Laboratory. While working at NCSU she also pursued a PhD degree which

was awarded by the Department of Chemistry in 1992. At NCSU she was inducted into Phi Lambda Upsilon, a national honorary chemical society. Dr. Haney has been active in the local Mass Spectrometry Discussion Group and is serving her second year as Secretary/Treasurer of that group. She also represents that group at local meetings of the ACS Executive Committee. In her position as Interim Director of Mass Spectrometry, Dr. Haney is responsible for management of the Mass Spectrometry Laboratory for biotechnology Research and the University GC/MS Laboratory. She is responsible for instrumentation which includes a JEOL HX110 high resolution mass spectrometer and a Hewlett Packard 5985B quadrupole mass spectrometer. She is a member of the American Society of Mass Spectrometry and the American Chemical Society.

Reginald B. Shiflett received his BS degree in chemical engineering from the University of Virginia. He then worked for the DuPont Company as a process engineer and was involved with the pilot plant development of Nomex[®]. He returned to the University of Virginia and received a PhD in physical chemistry. He began a career in teaching at Campbellsville College in Kentucky. He came to Meredith College in 1978 where he is currently Professor of Chemistry and Head of the Department of Chemistry and Physical Science. He is interested in the development of classroom demonstrations and laboratory experiments to help students better understand important chemical concepts. He has also been involved with the development of the senior-level, Interdisciplinary Capstone program at Meredith. He joined the Local Section in 1978 and has served on the hospitality, membership and academic/industrial interface committees.

For Councilor 1994:

James Lee Chao received his BS in Chemistry from the University of Illinois, Champaign-Urbana in 1975 and his MS from the same institution the following year. In 1980, he received his PhD from the University of California, Berkeley working in the area of spectroscopy of low temperature semiconductors.

He is presently an Advisory Scientist in the Materials Engineering Laboratory at IBM-RTP. He is the project leader for environmental gaseous testing and is responsible for the reliability of electronic components from electrical contact corrosion. Dr. Chao is also Adjunct Associate Professor of Chemistry at Duke. His interests include the development of instrumental methods for the characterization of polymers, liquid crystals and other materials using FTIR spectroscopy.

Dr. Chao has been a member of ACS since 1976. Shortly after his arrival in North Carolina in 1987, he joined the ACS Polymer subgroup and was asked to serve on the NC Section delegation for the Campaign for Chemistry. In 1990, as Chairman-Elect, he was responsible for bringing Project SEED back to our section. In 1991, as Chairman, the North Carolina Section was recognized by the Committee on Local Section Activities for excellence in performance. Currently, he serves as chairman of the Scholarship committee, serves on the Awards Committee and is the delegate to the Triangle Council of Engineering and Science Societies (TCESS). He is currently serving as Councilor for the Section completing the term of Maurice Bursey, who was elected Regional Director.

He is also a member of the Society for Applied Spectroscopy, the Coblenz Society, the New York Academy of Sciences, Sigma Xi and the North Carolina Institute of Chemists.

For Alternate Councilor, 1994:

Malcolm Forbes was born in Belfast, Northern Ireland in 1960 and emigrated to the US in 1963. He split his undergraduate education between American International College in Springfield, Massachusetts and the University of Illinois at Chicago, completing a BS degree in Chemistry 1983. He obtained a PhD in the laboratory of Gerhard Closs at The University of Chicago in 1988, working on 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' 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.

Peter Smith (BA, MA, PhD, Cambridge University) first came to the US as a Fulbright postdoctoral fellow at Harvard. Subsequently, he joined Duke's Chemistry Department, where he is now a Professor. As a physical chemist, his research interests include kinetic and structural studies of chemical and biological systems using EPR spectroscopy. He was the NC Section Chairman in 1972, during which time the NC Section Executive Committee started to consider hosting a Southeastern Regional Meeting (SRM). From its formation in January, 1978 until 1980, he chaired the NC Section SRM Planning Committee which gained for our Section in 1979 at the Roanoke SRM an invitation to host the 1984 SRM in Raleigh. Also, in recent years, he has served the Section as member or chairman of several committees (e.g., Education, Membership, National Chemistry Week, Nominations, and Program). At present, he is the Chairman of the Public Relations Committee, a member of the NC Section's current SRM Planning Committee seeking an invitation to host the 1998 SRM, and one of our Section's incumbent Alternate Councilors. In 1991, he was presented with the Marcus E. Hobbs Service Award by the NC Section, ACS.

The Nominating Committee: Charles B. Boss, NCSU, Jack Preston, RTI, John Wasson, Advanced Materials, Stephen Brown, Glaxo, Bob Voyksner, RTI, William E. Hatfield, UNCH (Chairman).

Galbraith Ad for Glassware

Ballot

Biographies of the Candidates may be found on pages 4-5. Only ACS members are eligible to vote. **Voting Deadline: Post-marked by Sunday, October 31, 1993.** 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)

- D. Maurice Balik, NCSU
- Michael Riebe, Glaxo

Secretary: (vote for one)

- Carol Ann Haney, NCSU
- Reginald B. Shiflett, Meredith

Councilor: (vote for one)

- Jim Chao, IBM

Alternate Councilor: (vote for one)

- Malcolm Forbes, UNC-CH
- Peter Smith, Duke

cut

Local Section Dues Increase Proposed

Many members may not be aware of the projects supported by the Local Section. These include the annual Section Conference, the second largest Project SEED program in the nation, the annual NC Section Symposium, the annual high school teachers awards, the annual undergraduate research scholarships, National Chemistry Week activities and *The TarHelium*. Many of these programs are expensive. Local Section dues, the annual ACS allotment, interest of an endowment from the 1984 Regional Conference, advertising in *The TarHelium* and donations from Local Section Discussion Groups have never completely paid for these activities. In the past, their costs have been offset by donations from local industry; however, these donations are no longer meeting the financial needs of the Section.

The scope of these programs has grown substantially over the last several years thanks to the efforts of many dedicated volunteers. For this reason, the Executive Committee plans to ask the Local Section Membership for a dues increase from \$3 to \$5 per member. Our by-laws require that this change be passed by a majority vote of those casting ballots. This ballot will accompany the November *TarHelium*. At a business meeting associated with the annual North Carolina Distinguished Speakers Award in December, the proposed increase will be discussed. You are encouraged to express your opinions in person or to Local Section officers if you are unable to attend. A list of Officers and their affiliations is located on the address page.

Local Section dues are included as one item on your annual bill for ACS dues. Local Section dues are optional and only about 60% of North Carolina Section members paid these dues in

1993. Because of an expected shortfall, the Local Section is anticipating the need to cash a CD established from the 1984 Southeastern Regional Meeting. This CD can cover much more than the expect shortfall, but cashing it will result in a substantial loss in interest and penalties.

It is possible that through individual donations, this shortfall could be avoided. Individual contributions would be greatly appreciated. The Local Section is a tax exempt organization and as such all donations are deductible. They may be sent to the Treasurer: Dr. Joan M. Burse, 101 Longwood Pl., Chapel Hill NC 27514-9584.

In August, the 1994 dues statements were mailed. If you have not paid your dues for 1994, please include the \$3-payment of the Local Section dues. This payment will help in 1994.

Micron Ad

NC Section Recognized

Dear Dr. Morrison:

On behalf of the ACS Committee on Local Section Activities, I am pleased to inform you that the North Carolina Section will receive a certificate of excellence for your section's performance in 1992. You and the other members of the section are to be congratulated for the truly commendable program which your section conducted. As tangible recognition of your activities and your nomination, the certificate of excellence will be sent to your section in September.

This certificate acknowledges the hard work of many officers and the support and enthusiasm of the North Carolina Local 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, Pittsburgh and St. Louis Local Sections were the winners for your size category and received the ACS Award for Outstanding Performance by Local Sections at the Chicago National Meeting.

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

Future TCDG Events

The 11th Triangle Symposium and Instrument Exhibit has been scheduled for May 19th, 1994 at the McKimmon Center

Beckman Ad must be rescaled

National Technician of the Year Award

Call for Nominations: The National Technician of the Year Award will be presented to a chemical technician who has demonstrated an extremely high degree of professionalism as a chemical technician. Criteria used to judge the award include job skills, safety and housekeeping, relationship with co-workers, publications and presentations, reliability, communication skills, and additional professional and community activities. The award will consist of a trip to the 207th ACS National Meeting in San Diego, California for the winner and their spouse. A plaque commemorating the award will be presented at the CTA/TECH National Technician of the Year Award Banquet in San Diego on Monday, March 14, 1994.

The ACS defines a chemical technician as a person whose training includes successful completion of a two-year post-high school level chemistry curriculum leading to an Associate Degree, or the equivalent course work in a Baccalaureate Program, or the equivalent knowledge gained by experience. The primary work of a chemical technician is conducting experimentation and/or correlating information to help solve chemical problems and/or discover new chemical knowledge.

Letters of nomination must be received by Theresa Brown, Hercules Incorporated, Research Center, 500 Hercules Rd., Wilmington, DE 19808-1599 no later than November 1, 1993. Nominations, including seconding letters, must not exceed six pages. The nominating letters should address each of the criteria listed above. A current work address must be provided for each nominee.

Chemical technicians need not be a Technician Affiliate or ACS member to be eligible for this award. This award is sponsored by the Council on Technician Activities (CTA) of the American Chemical Society (ACS) and the Division of Chemical Technicians (probationary).

For more information contact Theresa Brown at (302) 995-3257, FAX (302) 995-4117.

What's Happening in Chemistry

What's Happening in Chemistry? is an annual compilation of some of the past year's most interesting research in chemistry and chemical engineering. It is designed specifically for the news media in an effort to promote better public understanding of science and technology.

Some of the research featured in the current issue includes the discovery of the "Met-Car" molecule; development of medicines from genetically modified milk of pigs; improvement of gene mapping, and the use of bioremediation to remove pollutants. This issue also features a chronology of chemistry-related highlights from 1992, as well as contact information for the researchers if you choose to pursue a particular topic in further detail.

(Editor's Note: The National Office says that we may use the articles verbatim, edit them or refer to them as background for future stories. Their use is unrestricted. If you are interested, copies of *What's Happening in Chemistry?* are available from the ACS for \$8.95 each or you may use the Editor's copy. Arrangements could even be made to scan text for editing. Please contact me if you are interested in selecting and editing articles for the *TarHelium*.)

Eastern Carolina Meeting in Miniature

The Department of Chemistry at ECU in conjunction with the ECU ACS Student Affiliates, the ECU Chemistry Alumni Professional Society and the Eastern North Carolina Section of the ACS present the 1993 Student Meeting in Miniature, November 12, 1993. The keynote speaker is Dr. Herbert C. Brown, recipient of the 1979 Nobel Prize in Chemistry.

In celebration of National Chemistry Week you are invited to participate in the 1993 Meeting in Miniature. The event will provide an opportunity for undergraduate and graduate students to present projects or research in all areas of chemistry.

Galbraith Ad for Microanalysis

TCESS and Its Voice Messaging Service

Since 1992, the Local Section of ACS has been an active participant on the Triangle Council of Engineering and Science Societies (TCESS), a coordinating body for technical societies in the Triangle area. Local Section Councilor and TCESS representative, Jim Chao, also serves as the TCESS Secretary. Formed in 1990, it has grown steadily and now comprises more than thirty societies and provides services to over eight thousand area professionals.

The Triangle Council meets regularly to discuss efforts to further science and engineering awareness and education, to promote National Engineers Week, to disseminate information on member societies and their meetings and to enhance opportunities for sharing between societies.

Much of the Council's effort last year was toward the implementation of voice messaging which will allow members to retrieve information over the phone about upcoming meetings and events. It is hoped that quick, easy access to such information will stimulate interest in area professional meetings and help to raise both attendance and overall program quality.

To hear the current messages on the TCESS voice Information System, follow these simple steps. Call 541-7183 and press:

- 10 - ACS General Local Section information
- 11-Polymer Discussion Group information
- 52-NMR Discussion Group information
- 53-Mass Spectrometry Discussion Group information
- 54-Triangle Chromatography Discussion Group information

These box numbers will always be listed on the inside cover of each issue of the *TarHelium*. Other societies represented and their box numbers are:

- AEE, Association of Energy Engineers-12
- AIPE, American Institute of Plant Engineers-13
- AMS, American Meteorological Society-14

- ANS, American Nuclear Society-15
- ASA-Acoustical Society of America-55
- ASA-American Statistical Association-16
- ASHRAE, Heating Refrigeration and Air Conditioning Engineers-17
- ASCE, American Society of Civil Engineers-18
- ASME, American Society of Mechanical Engineers-19
- ASQC, American Society of Quality Control-20
- ASSE, American Society of Safety Engineers-21
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 - Reliability/Professional Comm/Management Society-35
 - Circuits and Systems Hybrids Society-36
 - Electron Devices Society-37
 - Instrumentation Society-38
 - Signal Processing Society-39
 - Antennae/Microwave Society-40
- IES, Institute of Environmental Sciences-25
- IIE, Institute of Industrial Engineers-26
- ISA, Instrument Society of America-27
- ISHM, International Society for Hybrid Microelectronics-28
- NCIC, North Carolina Institute of Chemists-29
- NCPDG, North Carolina Pharmaceutical Discussion Group-50
- NCRAF, North Carolina Regulatory Affairs Forum-51
- NCSOT, North Carolina Society of Toxicology-41
- NSBE, National Society of Black Engineers-49
- PENC, Professional Engineers of North Carolina-42
- RTPSRA, RTP Chapter of the Society of Risk Analysis-44
- SAE, Society of Automotive Engineers-56
- SME, Society of Manufacturing Engineers-47
- SPE, Society of Plastics Engineers-43
- STC, Society of Technical Communications-45
- SWE, Society of Women Engineers-46
- WIM, Women in Mathematics-48

Highlights of the ACS Council Meeting in Chicago, August 1993.

by Eric C. Bigham, Councilor

President Helen Free reported on her efforts to increase public awareness of chemistry through the Volunteer In Public Outreach Program (there are now 11265 VIP's), National Chemistry Week, and Corporation Associates. She is urging more activity in ACS programs by members and has suggested that local sections could participate in regional meetings. She continues to encourage children to experience science and supports *Wonder Science*. Members employed in industry continue to be the focus of current programs. Planning has begun for ACS's participation on World Chemistry Week in 1999.

President-Elect Ned Heindel is stressing the need for continued funding for basic research. He is also focusing efforts on academic-industrial interactions and on the ACS Minority Affairs program.

Past-President Ernest Eliel has been especially active in ACS international activities. He continues to emphasize public outreach including the *USA Today* project. In the area of membership, he pointed out that we now have 4000 post doctoral fellows in the

USA, which is about a two-year supply. He suggested that too many PhD level chemists are being produced for the current economic conditions.

Chairman of the Board Paul H. Walter reported on advances in electronic publishing of journals on STN in 1994. The CD-ROM version of the CAS 12th collective index, called CAS Surveyor, is now available. In 1994 the Derwent Patent Index will be searchable on STN.

Executive Director John K. Crum said the Society is in good financial condition, due largely to personnel limitations in Washington and Columbus. Efforts continue to develop and implement programs directed at industrial chemists. Membership recruitment is ahead of last year. The Government Relations Department has issued a number of statements and made many contacts during the past year. Divisional membership is being promoted. The *USA Today* articles have been very popular and have generated a number of calls to the ACS for information. Request for PACTS educational grants is up 10-fold over last year. Public outreach continues to be a major focus. In the publications area, *C&EN* revenue is down. The ACS will begin co-publishing *J. Pharm. Sci.* in the near future. One third of all manuscripts are now submitted on diskettes.

Committee on Nominations and Elections brought forth a petition to change the Bylaws so that Director at Large positions on the Board would be divided between industrial and non-industrial members. This petition was quite controversial and was sent back for revision. The Committee on Budget and Finance set the 1994 budget at \$219.5 million. An amendment to the Bylaws was passed that allocates the entire cost of the non-advertising space in *C&EN* to dues. This change will have no immediate effect on dues supported programs. Society Committee on Education. A chemistry core curriculum for all K-12 students is being developed. The *USA Today* and *Wonder Science* programs are going extremely well. SOCED continues work on science education at all levels and on national science education reform. Committee on Science is planning a 1994 program on molecular modeling. Meeting and Expositions reported that 13,500 attended the Chicago meeting and exposition. Registration fees for the 1994 national meetings were set by council at \$180. M&E reported that meeting costs are rising 7% per year, which is higher than inflation. The effect of rising registration fees concerns the council. Membership Affairs is studying member recruitment and retention. Additional dues categories, such as Fellows or family leave categories were discussed. Efforts are underway to improve member benefits (i.e. credit cards, car rentals, insurance). MAC is producing a newspaper called *Reaction Times* that is being distributed to selected college campuses nationwide. ACS has 11,000 new members, higher than expected, but we also have 8600 members who are delinquent on their dues. Lists of delinquent members will be sent to local sections to see if they can help recover some of these members. The Committee on Professional Relations is preparing a revised set of Professional Employment Guidelines. CPR also reported that the Chicago Employment Clearing House had attracted 1300 candidates (10% of attendance), 130 employers with 250 positions to fill. This is approximately twice as many candidates and half as many positions as in the recent past. The Division Activities Committee won approval for a petition that changes the Bylaws so that division allocations will be adjusted for inflation in the same way that local section allocations are currently done. Local Section Activities Committee gave awards for the outstanding

local sections; The North Carolina Section received an honorable mention. We need to make sure our National Chemistry Week programs are reported in detail so that we are considered for the Phoenix awards by the Office of Public Outreach. The Bylaws were amended so that local section annual reports will now be due on February 15 rather than February 1.

Oneida Ad Must be rescaled from old ad

Area News

BASF: The Agricultural Products Group, which employs 200 workers in the Raleigh Durham area, earned BASF Corporation's first place Gold Award for the best safety performance by a business group in 1992.

Boron Biologicals Inc.: (BBI) has named Dr. Anup Sood as director of research. "Anup Sood, with his extensive experience in boron chemistry, will help BBI to develop current drug compounds and to discover new boron-based therapeutics," said Dr. Bernard F. Spielvogel, founder of the Raleigh biotechnology firm. As director of research, Dr. Sood will assist in the design and implementation of all research and development projects. He will also be involved in the procurement of research funds and will be responsible for the coordination of all cooperative research with companies, universities and other organizations. Dr. Sood has served as BBI's associate director of research and development since 1989 and has been with the company since its formation. Prior to joining BBI, Dr. Sood held a variety of boron chemistry research positions at Duke University. He is co-inventor of 18 patents in boron, organic and nucleic chemistry, and has written more than 45 related papers. He received a PhD in chemistry from the University of Toledo in 1985. "BBI uses the most recent advances in molecular biology to develop powerful new pharmaceuticals. I am very excited about the opportunity to remain on the cutting edge of boron chemistry and further tap the vast potential of boronated compounds," said Dr. Sood.

BBI also has named G. Brooks Adams director of marketing and business development. "Brooks Adams' international marketing and financial experience and know how will help ensure BBI's continued expansion," said Charles R Krause, president of the Raleigh biotechnology firm. "Brooks will assist us with quickly and successfully commercializing our proprietary boronated compounds." Prior to joining BBI, Mr. Adams was a partner and vice president with Techno Consult USA Inc., an international management consulting firm. He served as director of the U.S. arm of this German firm, helping high-technology companies develop and implement competitive marketing strategies. "BBI has already begun to market its unique drug compounds around the world," said Mr. Adams. "In the last year, BBI has signed a research contract and licensing agreement with a French pharmaceutical company and a distribution agreement with a Japanese chemical company. I plan to expand the market base for BBI's drug compounds." Mr. Adams previously held key financial and management positions with the Foundation Investment Group in Raleigh and with Manufacturers Hanover Trust Company in New York and London. He received an MBA from Duke University's Fuqua School of Business in 1986.

CIIT: The Chemical Industry Institute of Toxicology is holding an open house, Tuesday, October 19. The open house includes a poster session, picnic lunch and presentations. Reservations required. Call Edna Mangum (919) 541-2070, Ext. 204.

CIIT-NCSU: CIIT donated to NCSU Biochemistry four Baker Biohazard tissue culture hoods. These hoods will be housed in a joint Animal Science/Biochemistry Tissue Culture Facility in Polk Hall, and the hoods are officially being accepted in the names of two Presidential Young Investigators (PYIs) who can use them for nationally funded tissue culture studies. The two PYIs are Dr. Charlotte Farin (Animal Science) and Dr. Joseph Hall (Biochemistry).

Glaxo-NCSU: We are pleased to announce the Glaxo/NCSU Biochemistry Lecture Series. Glaxo Research Institute will bring three outstanding speakers to the NCSU campus each year for the next four years (1993-1997). The first year of lectures will focus on RNA Structure and Function. Lectures for the second year will cover Steroid Hormone Signal Transduction. Lecture topics for the third and fourth years are yet to be determined. The traditional Biochemistry Matrone Lecture (January) will complement the Glaxo-funded series by providing a fourth lecture appropriate to each year's topic. We appreciate the generous support of Glaxo in higher education.

Glaxo is funding this lecture series to promote collaborative interactions between faculty and students at NCSU and scientists and associates at Glaxo. Because of the broad range of science conducted at Glaxo which spans most of NCSU's Life Sciences and many areas of Applied Sciences, we solicit suggestions from all associated departments for lecture topics which are at the emerging frontiers of biochemical sciences. Call (919) 515-5802

Development of the Glaxo/NCSU Biochemistry lecture series has involved many persons at Glaxo, the CALS administration of NCSU, and the Department of Biochemistry. Initial arrangements were developed with Glaxo by Dr. Elizabeth Theil and continued by Dr. Paul Agris and Dr. Theil.

NCSU: After 11 years as associate dean for academic affairs for the College of Physical and Mathematical Sciences, Dr. Robert D. Bereman returned full time to his research and teaching program in the Chemistry Department. Dr. Bereman will also con-

tinue to collaborate with Sigma Xi on an environmental curriculum project.

Dr. Forrest W. Getzen, Chemistry, was recently elected to titular membership of the International Union of Pure and Applied Chemistry (IUPAC) in the Analytical Chemistry Division for his contributions to chemistry and his work with the union at a meeting in Portugal. Dr. Getzen serves the IUPAC as a member of the Solubility Data Commission and is the Liquid-Liquid Subcommittee chair of that commission which prepares and edits the Solubility Data Series, a compilation of all reported chemical solubilities in solvent systems.

Dr. Ken Korach becomes adjunct faculty in the Department of Biochemistry. Dr. Korach is chief of the Receptor Biology Section and Deputy Chief of the Laboratory of Reproductive and Developmental Toxicology at the National Institute of Environmental Health Sciences (NIEHS) in the Research Triangle Park. Dr. Korach joined NIEHS in 1976 and received his tenure and Senior Scientist status in 1981.

Formal undergraduate laboratory training in Biochemistry has been limited for the past 25 years to one, 2-credit course. This past year, the Howard Hughes Medical Institute provided Biochemistry with funds for instrumentation to modernize equipment for the 2-credit course and to help equip a new 4-credit Biotechnology Laboratory course for Biochemistry majors. This year the North Carolina Biotechnology Center (NCBC) awarded Biochemistry matching funds for the Howard Hughes support. We are now able to offer our undergraduates instruction in gene cloning, RNA quantitation, protein purification, PCR, and DNA sequencing in a coordinated 6-credit hour two-seminar laboratory series. The College of Agriculture and Life Sciences announced that they will support a full-time Laboratory Coordinator to oversee the 6-credit hour Biochemistry laboratory series.

Sphinx: Sphinx Pharmaceuticals Corporation announced that its Board of Directors has accepted the resignation of Clayton I. Duncan as President and Chief Executive Officer effective as of the end of November, 1993. "The Board and I believe that it is in the best interest of the Company to implement its succession plan, which will include new senior management to oversee the development and commercialization of Sphinx's technology," said Mr. Duncan. "We are grateful to Clayton Duncan for building Sphinx from the Company's first venture financing to a public company with a compound in clinical trials," commented Joseph J. Ruvane, Jr., Chairman of the Company's Board of Directors. "A search for his successor is currently underway." The Board of Directors has also accepted the resignation of H. Jeff Leighton, PhD, Executive Vice President, Research and Development.

UNC-Chapel Hill: Robert G. Parr, Wassily Hoeffding Professor of Chemical Physics in the Department of Chemistry, has been selected by the American Chemical Society as the 1994 recipient of the Irving Langmuir Award in Chemical Physics sponsored by the General Electric Foundation. This is an annual prize presented in alternate years by the American Chemical Society and the American Physical Society, "for outstanding interdisciplinary research in chemistry and physics within the last ten years." Professor Parr's recent researches have dealt chiefly with the quantum theory of the electronic structure of molecules. Professor Parr has been on the UNC faculty since 1974.

Maurice S. Brookhart is the recipient of the 1994 American Chemical Society Arthur C. Cope Scholar Award which recog-

nizes and encourages excellence in organic chemistry. Brookhart's research interests are centered on synthetic and mechanistic organometallic chemistry and the application of metal complexes in synthesis and catalysis. Recent topics of interest include the design and mechanistic elucidation of cobalt(III) catalysts for the living polymerization of ethylene, the mechanism of cobalt(III)-catalyzed hydrosilylation of alkenes, selective tail-to-tail dimerization of methyl acrylate by Rh(III) catalysts, and the mechanistic and synthetic aspects of copolymerizations of olefins and carbon monoxide to yield polyketones. Professor Brookhart received the 1992 ACS Award in Organometallic Chemistry and has been Associate Editor of *Organometallics* since 1990.

Job Openings

All job announcements are broadcast immediately upon receipt to the e-mail distribution list. If you wish to be included send you address to: bill_switzer@ncsu.edu.

Burroughs Wellcome: Job Line at (919) 315-8347.

EPA-RTP: Job line (919) 541-3014. Updated every Friday.

Glaxo: Job Line (919) 248-2565

Guilford College invites applications for a tenure track position, Assistant Professor of Physical Chemistry to begin Fall 1994. Teaching responsibilities include general chemistry, physical chemistry, advanced courses in area of specialization. The candidate should also have an interest in interdisciplinary courses and the use of computers in education. Send curriculum vitae, undergraduate and graduate transcripts, statement of teaching philosophy and have three letters of recommendation forwarded to Dr. David F. MacInnes, Chair, Chemistry Department, Guilford College, Greensboro, NC, 27410.

Review of complete dossiers will begin December 1. Guilford College is a selective coeducational liberal arts college dedicated to undergraduate teaching excellence. EEO/AA Employer. Women and minorities are encouraged to apply.

RTI: Contact: Research Triangle Institute, Office of Human Resources, PO Box 12194, Research Triangle Park NC 27709-2194. Phone: (919) 541-6466. Postdoctoral Chemist (Term) F0422 63A PhD in Chemistry with research experience in organic synthesis. Will conduct research in the synthesis of organic compounds. (Term) (GC) Analytical Chemist I/II/III G0073 70A BS/BA or MS in Chemistry with experience in trace metal analysis. Experience in clean room techniques and operation of graphite furnace AA or ASV preferred. Experience with GLP's helpful. Will perform research and analysis in inorganic analytical chemistry and methods development for graphite furnace AA and ASV. (GC) Chem. Eng./Env. Eng./Env. Sci. II/III J0245 94A BS/MS in Engineering/Environmental Science with good written/oral communication skills essential. Experience with computer spreadsheet and database mgmt. and in pollution prevention/waste mgmt., and the ability to travel to industrial facilities required. Will conduct environmental research tasks assigned by and under the supervision of project leader. (GC) Chemist I F0415 63A BS in Chemistry with training or experience in organic synthesis. Will synthesize, purify and analyze organic compounds. (GC) Chemist I/II F0416 64A BS/BA in Chemistry with training or experience in HPLC/GC. Will provide analytical chemistry support for toxicity studies: chemical characterization, methods development, dosage formulation and analysis. Will also perform data analysis and report writing. (GC) For.

An. Tox. III/ Res. For. An. Tox. I F0414 64A BS/BA in Chemistry or related discipline with at least 1-2 yrs. experience in the review and certification of GC/MS and immunoassay data, QC procedures and chain of custody. Will review laboratory inspection reports, SOP's. data, remedial action submissions, assist in determining laboratory status and other duties as required. (GC) Postdoctoral Chemical Engineer (Term) J0250 96A PhD in Chemical Engineering with background in gas-solid reactions and catalysis or fluid-bed reactors. Background in gas separation desirable. Will construct and operate bench scale desulfurization/ sulfur recovery reactor systems, analyze data and write technical reports and publications. (Term) (GC) Postdoctoral Chemist (Term) F0409 63A PhD in Organic Chemistry with training in organic synthesis. Will conduct research to synthesize novel organic compounds. (Term) (GC) Postdoctoral Chemist (Term) F0417 60A PhD in Organic Chemistry with synthetic chemistry research experience. Will synthesize phosphonates and protein conjugates with some metabolism and kinetics work possible. (Term) (GC) Res. Analytical Chemist II/III G0071 72A PhD in Analytical Chemistry with 2-5 years of experience in analytical/environmental chemistry. Experience conducting independent research programs, should have good communication and management skills, develop independent research programs, write proposals and grants, manage projects, interact with clients. (GC) Res. Forensic An. Toxicologist I/II F0407 64A PhD or equivalent in Chem., Toxicology, Pharm. or related discipline with experience in the technical direction of a forensic urine drug testing laboratory or as an inspector of FUD laboratories. Must have excellent communication skills. Will review laboratory applications, inspection reports; SOP's; laboratory data & other information; determination of lab. cert. status; performance testing & results. (GC) Res. Nat. Prod. Sci. III/Sr. NPS I/II/III F0413 60A PhD with experience in the isolation and structure determination of natural products. (Experience in synthesis and testing of natural products will be considered). Will be responsible for leading natural products research programs; writing successful grant/contract proposals; managing research projects and supervising laboratory staff. (GC) Research Chemist I/II F0410 66A PhD in Polymer Chemistry with 3-5 years of postdoctoral research experience in polymer chemistry or material science. Will be responsible for developing R&D proposals to generate external funding and to carry out funded research in the area of polymer science. (GC)

ACS Congressional Fellowship

The American Chemical Society's Congressional Fellowship Program places a person with a background in science and public policy in the office of a U.S. Senator, Representative, congressional committee or subcommittee. During the year-long fellowship, this person is responsible for providing the office in which they serve with a sound, objective scientific basis for policy decisions, increasing ACS visibility on Capitol Hill, and providing the Society's membership with insights that they have gained from their service.

ACS fully funds a stipend for the fellow, but other sources of funding may be acceptable (e.g., the fellow's employer, private foundations, etc.). The 1994-95 stipend is \$42,000. The next Fellow to be selected will begin work in September of 1994.

Fellows are selected on a competitive basis from among members of the ACS who have significant familiarity with one of the chemical sciences or engineering (e.g., a doctorate or equivalent

work experience); a working understanding of the chemical community; and experience in civic activities or public affairs. Past involvement in ACS activities also is taken into account. A candidate for the Fellowship must submit a letter of intent and a resume directly to the ACS. In addition, two letters of recommendation are to be sent to the ACS by their authors.

The ACS Committee on Chemistry and Public Affairs (CCPA) Congressional Fellowship Subcommittee and the ACS Department of Government Relations and Science Policy maintain ongoing contact with the fellow and congressional offices. The fellow is required to report regularly to CCPA and meet with other Society groups as necessary to provide for an adequate flow of information. The American Association for the Advancement of Science's (AAAS) Congressional Science and Engineering Fellowship Program provides an orientation session for the Fellow.

The deadline for receipt of application materials for this Fellowship is January 1, 1994. For further information, contact Bill Gray at the ACS Department of Government Relations and Science Policy, 1155 Sixteenth Street, NW, Washington, DC 20036, or phone him at (202) 872-4467.

The Glaxo-UNC Fifth Annual Frontiers In Chemistry And Medicine Symposium

Sunday, November 7 - Tuesday November 9, 1993

Friday Continuing Education Center
University of North Carolina at Chapel Hill

Program:

"Studies in the Synthesis of Biologically Active Natural Products: The Carbohydrate Connection", Samuel Danishefsky, Yale University

"The Chemistry Revolution", Harry Gray, California Institute of Technology

"Marine Natural Products: A Rich New Source of Targets for Synthesis", Clayton H. Heathcock, University of California at Berkeley

"Quinoproteins As New Catalysts", Judith P. Klinman, University of California at Berkeley

"New Opportunities at the Interface of Chemistry and Biology", Peter G. Schultz, University of California at Berkeley

"Ribonucleotide Reductase: Radical Enzymes with Suicidal Tendencies", Joanne Stubbe, Massachusetts Institute of Technology

"Molecular Studies on Protein Tyrosine Phosphatases", Christopher T. Walsh, Harvard University

Registration Fee:

\$25 includes lunch (students \$10)

\$60 includes lunch and banquet (students \$30)

For Registration and Additional Information Call or Write:

(919) 941-3400: Glaxo/Wanda Satterwhite

(919) 962-2172: UNC/Becky Smith

Ms. Becky Smith

Symposium Coordinator/UNC, CB #3290

University of North Carolina at Chapel Hill

Chapel Hill, North Carolina 27599-3290

Area Seminars

- Oct 1 W. L. Gladfelter, University of Minnesota, "Selective Metallization by Chemical Vapor Deposition", Duke
- Oct 4 L. A. Coury, Duke University, "Applications of Electrochemistry in Sonochemistry", NCSU
- Oct 4 J. Brodbelt, University of Texas, Austin, "Quadrupole Ion Trap Mass Spectrometry: New Frontiers in Gas-Phase Chemistry", UNC
- Oct 7 R. Bryant, University of Virginia, "Electron And Nuclear Relaxation In Dynamically Heterogeneous Systems", UNC
- Oct 8 G. A. Petsko, Brandeis University, "The Glass Transition in Proteins", Duke
- Oct 11 V. Pecoraro, University of Michigan, "Demystifying the Mechanism of Manganese Redox Enzymes", NCSU
- Oct 14 N. Thomas, Massachusetts Institute of Technology, "Phase Behavior In BC And BC/Homopolymer Blends", UNC-Colloquium
- Oct 14 L. S. Sheldon, Research Triangle Institute, "Indoor Air Quality Methodology", TCDG see p. 2
- Oct 15 P. Renaud, Universite de Lausanne, "Control of Stereoselectivity in Radical Reactions", Duke
- Oct 21-23 "NC Symposium on Molecular Modeling: Integration of Theory and Experiment", ACS see pp. 3-4
- Oct 22 I. D. Kuntz, Jr., University of California at San Francisco, "Computer-Assisted Molecular Design", Duke
- Oct 26 V. Kabanov, "'Snake-in-Cage' Polymer Composites from Polyelectrolytes", Polymer see p. 4
- Oct 28 M. Rubenstein, Imaging Research Labs, Eastman Kodak Company, "Contemporary Theoretical Advance In Polymer Physics", UNC
- Oct 29 D. M. Hury, Hoffmann-La Roche, "Inhibitors of HIV Reverse Transcriptase, Protease, and Tat", Duke

ACS-American Chemical Society monthly meeting

Polymer-ACS Polymer Discussion Group. Call Walter Pawlowski (919) 543-2243 (IBM-RTP)

TCDG-Triangle Chromatography Discussion Group. Call John Hines, RTI 541-6647

Duke (Chemistry) Call Bonnie Turner at 660-1506.

NCSU (Chemistry) Call Joyce Weatherspoon at 515-2548.

UNC-CH (Chemistry) Call Becky Smith at 962-2172.

Biotechnology Center Hosts Expo

On October 20-21, the Biotechnology Center of North Carolina hosts the Life Sciences Expo. NIEHS Director Kenneth Olden will give the keynote address and 200 vendors will exhibit their latest scientific products. Admission is free and shuttle buses will provide round-trip transportation between the event and area universities, government labs and biotechnology companies. Contact Flora Moorman at the Biotechnology Center, 541-9366 for information.