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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.

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November 7 National Chemistry Day

The National Chemistry Day celebration will begin at 9 a. m. on November 7, 1992 in Dabney Hall at North Carolina State University. The session will begin with one hour of exciting demonstrations presented by Wake County High School chemistry teachers. The Big Bang Cannon, Elephant's Toothpaste, the Electric Chicken, the Luminol Ammonia Fountain, and many more exciting demos will be presented for your enjoyment. A tour to the nuclear reactor, a presentation by textile chemistry and others will follow the demonstrations. Door prizes for teachers will be available. For more information, contact Karen Irving, Science Teacher, Broughton High School, 723 St. Mary's St., Raleigh NC 27605. Phone (919) 856-3736. Pre-registration is desirable.

November 10 Local Section Monthly Meeting

The Local Section meeting this month is held jointly with the NMR Discussion Group. It will be held at Burroughs Wellcome Company. The speaker is Gary E. Martin from Burroughs Wellcome. The title of his talk is: "Recent Advances in Two-Dimensional NMR Spectroscopy."

Biography: Gary E. Martin received his B. S. in Pharmacy from the University of Pittsburgh in 1972 and his Ph. D. from the University of Kentucky in 1976. He was a faculty member at the University of Houston from 1975 through January of 1989 at which time he joined the Division of Organic Chemistry at Burroughs Wellcome, Co. His research interests include: structure elucidation by 2D-NMR; new applications of existing 2D-NMR experiments; and the development of new selective 1D and

2D-NMR experiments. Most recently his work has involved evaluation and applications of micro inverse-detection for molecular structure determination in the low microgram range.

Abstract: NMR techniques currently in routine usage in the NMR laboratories at Burroughs Wellcome Co. will be discussed. Examples will include inverse-detection methods for direct and long-range heteronuclear correlation, HMQC-TOCSY, and HMQC-NOESY. Applications of some of these experiments in new micro dual and inverse-detection probes will also be presented. Finally, selective one-dimensional analogs of two-dimensional NMR experiments will also be described.

November 12 Polymer Group Symposium and Banquet

In recognition of the 25th anniversary of the Polymer Discussion Group, a symposium and banquet will be held on the campus of the University of North Carolina, Chapel Hill, Thursday, November 12. The symposium will be preceded by a poster session from noon until 2:00 p. m. The symposium will be held in Venable 207 from 2:00 p. m. until 5:00 p. m. The speakers are: Anton Schindler, RTI; Jack Preston, RTI; C. Maurice Balik, NCSU; R. Spontac, NCSU; Ray Fornes, NCSU; Richard Gilbert, NCSU; Vivian Stannett, NCSU, Allan Tonelli, NCSU; Ray Kirby, IBM and Beth Muñoz, Lord Corporation. Posters will be contributed from the groups of Ed Samulski, UNC-CH and Richard DeSimone, UNC-CH.

Please make reservations by noon, November 9, with Walter Pawlowski (919) 543-2243.

Polymer Group Celebrates Silver Anniversary by Jack Preston, RTI and 1992 Polymer Group Chairman

The initial suggestion for a polymer group apparently emanated from Eli Perry (possibly in collaboration with Dr. Herbert Friedlander) of Chemstrand Research Center, which was the first (1960) industrial research laboratory in the Research Triangle Park. Chemstrand has been gone since 1984. An *ad hoc* committee consisting of interested persons from academia and industry met in the first floor conference room at Chemstrand on September 6, 1967. At this meeting by-laws were drafted and the name of the group, Polymer Group of the North Carolina ACS Section, was adopted. Professor Richard Gilbert was elected chairman, Dr. Jack Preston--chairman-elect and program chairman and Dr. Don Preiss--Secretary-Treasurer. Although the group was organized in September, the first meeting was not held until November.

In addition to the officers given above, the announcement of this first meeting listed the directors of the Group. These included: Dr. Anton Schindler, Camille-Dreyfus Laboratory; Dr. William Krigbaum, Duke University; Dr. Vivian Stannett, NC State University; Dr. Eli Perry, Chemstrand Corporation and Dr. Anton Peterlin, Camille-Dreyfus Laboratory. At the first meeting, the speaker was Dr. W. P. Slichter, Chemical Director, Bell Telephone Laboratories. His topic was "Nuclear Magnetic Relaxation in Polymers." This meeting was held Thursday, November 9, 1967 at the Carolina Inn in Chapel Hill. The cost, including refreshments and tip was \$3.50.

During the early years of the Groups existence, an attempt was made to have the meetings held equally at the three cities of the Triangle. One meeting, May 7, 1970, was even held at the Bur-Mil Country Club in Greensboro to accommodate our members

there, although a strong influence may have been the fact that the Burlington Company provided the speaker, C. C. Price, and the social hour *gratis*! After several years of meeting at various places, the Group's meetings have settled on the NC State Faculty Club. The date was set to the second Thursday of each month from September to May, unless otherwise announced. The notable exception to holding the meeting in Raleigh is the November 12, 1992 meeting, when the Group returns to the Carolina Inn in Chapel Hill, the site of the first meeting.

A list of officers of the Polymer Group from 1967 to date reads like a Who's Who of polymer scientists in the area. These officers, who are show below, have certainly given considerable time and effort to making the ACS Polymer Group the success that it has been. It should be noted that several of these officers and many of the members of the Polymer Group have also participated in the activities of the North Carolina Section of the ACS. Moreover, a joint meeting of the Polymer Group and the Local Section is a long standing tradition. It usually takes place in January.

Over the quarter century of its existence, the Polymer Group has served the needs of many polymer scientists and students by holding meetings featuring as speakers nationally and internationally prominent scientists. Equally important has been the possibility for members of the group to learn of the research of local industrial scientists and academics. Recently, a new initiative that has met with great success has been to have one meeting per year at which student affiliates present their work.

Evidence of the strong contributions of the Polymer Group to the professional needs of polymer scientists in the area is found in the fact that meetings have been well attended (approximately 25-50 persons/meeting) for many years and that generous financial support to carry on the work of the Group has been provided by several industrial concerns and by the NC Section of the ACS.

On the 25th anniversary of the Polymer Group's first meeting, special events have been planned with lectures from 2-5 p. m. in 207 Venable on the campus at the University of North Carolina, Chapel Hill with social hour, banquet and lecture by Professor Robert Lenz. The social hour begins at 5:30 p. m. The President of the National ACS, Professor E. L. Eliel, will also address the attendees of the banquet.

Chairpersons of the ACS Polymer Group

1967	Richard Gilbert	1980	Paul Greer
1968	Jack Preston	1981	Don Preiss
1969	Don Preiss	1982	Taka Murayama**
1970	Howard Clark	1983	Richard Gilbert
1971	Anton Schindler	1984	Billy Chow
1972	Marvin Lilyquist	1985	Ray Fornes
1973	Paul Greer	1986	Ray Kirby
1974	Larry Bowen	1987	Dick Ambrose
1975	Joel Williams	1988	Fred Robinson
1976	Virginia Menikeim	1989	Keith Dawes
1977	Charlie Kilmer	1990	Maury Balik
1978	Waller George*	1991	Kirk Abbey
1979	Bill Walsh	1992	Jack Preston

* Deceased June 4, 1990

**Deceased November 22, 1985

November Calendar

- Nov 2 G. Pielak, University of North Carolina, Chapel Hill, "Recent Studies of Novel Cytochrome c Variants", NCSU
- Nov 4 E. Canadell, Laboratoire de Chimie Theorique, Universite de Paris-Sud, "Structural Instabilities of Low-Dimensional Solids", NCSU
- Nov 5 C. S. Johnson, Jr., University of North Carolina, Chapel Hill, "Size and Charge Resolved 2D NMR: More MOSY and DOSY", UNC-CH
- Nov 5 H. M. Steinman, Albert Einstein College of Medicine, "Biochemical Mechanisms of Dioxygen Toxicity", NCSU-BC
- Nov 6 P. J. Gemperline, East Carolina University, "Principal Component Analysis of 3-Way Arrays and its Application in the in the Analysis of Blue Crab Shell Disease", Duke
- Nov 9 M. Hopkins, University of Pittsburgh, "Conjugated Transition Metal Complexes & Polymers", NCSU
- Nov 10 G. E. Martin, Burroughs Wellcome Co., "Current NMR Techniques In Molecular Structure Elucidations", **ACS** and **NMR Group**, Burroughs Wellcome
- Nov 12 R. Lentz, University of Massachusetts, Amherst, 25th Anniversary Symposium, **Polymer Group**, at the Carolina Inn in Chapel Hill (see program description p. 2)
- Nov 13 P. S. Miller, Johns Hopkins University, "Antisense and Anticodon Oligonucleotide Analogs: Interaction with RNA and DNA Targets", Duke
- Nov 13 P. H. Hopkins, University of Washington, "Chemistry of DNA Interstrand Cross-Linking Drugs, Toxins and Toxicants", 12:00 noon, UNC-CH
- Nov 16 J. Cook, University of Wisconsin, Milwaukee, "Studies on the Pictet-Spengler Reaction. Strategies for the Synthesis of Ring-A Methoxylated Indole Alkaloids", NCSU
- Nov 20 S. A. Evans, Jr., University of North Carolina at Chapel Hill, "New Synthetic Methodologies Employing Organophosphorous Chemistry", Duke
- Nov 23 D. Liotta, Emory University, "New Approaches for Synthesizing Antiviral Nucleosides", NCSU
- Nov 30 B. Miller, AT&T Bell Labs, "Recent Applications of Electrochemistry to Electronic Materials from Cuprates to Silicon", NCSU

ACS-American Chemical Society monthly meeting

NMR-ACS NMR Discussion Group

Polymer-ACS Polymer Discussion Group

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 Weather- spoon 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.

Local News

Burroughs Wellcome: Burroughs Wellcome Co. has been named one of the 100 Best Companies for Working Mothers in 1992 by *Working Mother* magazine. The *Working Mother* 100 are considered the country's most innovative and advanced firms

in support of working families. Published in the October issue, the companies are selected and ranked in categories using the following criteria: competitive salary, opportunities for women to advance, support for child care, and family-friendly benefits. BW is the fourth largest employer in the RTP and the largest in Pitt County. BW employs more than 1900 people in the RTP and 1800 in Greenville. Nearly half of the company's work force are women and 50% of them are working mothers.

Aware that quality in child care, not just availability, concerned its work force, BW joined IBM in 1990 in a \$273,000 joint project to expand and improve the quality of child and elder day care in the triangle communities where the company's employees live. The joint venture has already resulted in the recruitment of 46 family child care providers and the opening of 211 new child care spaces in homes in Wake, Orange and Durham counties. "Child care is a major expense for most young families," said Bee Weddington, work/family programs manager at BW. Weddington said that the company has a flexible spending account that enables employees to pay their caregivers with pre-tax dollars thus easing their financial burden. The availability of flexible work hours also helps employees balance their responsibilities at work and at home. Family leave of absence is available to care for ill family members and to new parents--both mothers and fathers, to spend time together as a new family. Adoptive parents may take a week of paid leave when the baby arrives and the company reimburses up to \$2,500 of the expenses related to the adoption process.

Eldercare referral services enable employees and retirees to dial a toll-free number to reach a counselor in the part of the country where an elderly relative lives. According to Weddington, 114 employees used the service during the nine months that the line has been operational.

"We've always believed that an investment in employee work/family benefits is win-win for everyone involved--the company, the employee and his or her dependents," said Jack Munroe, vice president of organization development at BW.

NC Biotechnology Center: The September 1992 issue of *BT Catalyst* reported that a new computer bulletin board designed for small businesses is now available through the Small Business & Technology Development Center (SBTDC) in cooperation with MCNC. The bulletin board contains information on services available to small businesses from a variety of agencies, including the SBTDC, the NC Biotechnology Center, MCNC, the NCSU Industrial Extension Service, the Technological Development Authority and the NC Community Colleges Small Business Centers. The bulletin board offers a unique opportunity to make connections with other small business owners through a series of discussion groups and electronic mail. In addition the bulletin board contains news posted by sponsoring agencies and notices of upcoming workshops, seminars and other events. The service became available September 1. Its usage is free, but all users are currently limited to 30 minutes per day. Connecting to the bulletin board requires a modem that can transfer data at 2,400 baud, no parity, 8 data bits, 1 stop bit. Dial the bulletin board at (919) 571-4153. Callers will be prompted to set up a new account. For more information, contact Neil Moore at the Biotechnology Center (919) 541-9366.

RTI: The National Cancer Institute (NCI) has renewed a contract with RTI for \$2.45 million over a five year period. This contract is part of the NCI program to screen compounds for

anti-cancer and anti-AIDS activity. Dr. John W. Hines is the RTI principal investigator for the project which confirms the structure of all the compounds they receive, characterizes physical and chemical properties, separates and identifies significant impurities and examines stability under conditions that might predict problems with the pharmaceutical formulation. "Each compound we receive is unique," says Hines, "and we have to develop a feel for its specific problems to handle it correctly. Even small differences in the presence or amount of impurities, if undetected, could lead to erroneous interpretation of test results." The challenges presented by the broad range of chemical entities has led the RTI team to develop and implement new analytical methods for drug analysis. These include computer-aided photo diode array UV detection for validating chromatographic specificity and for identifying drug and formulation impurities. The team has also used x-ray crystallography to determine structural orientation and configuration. They have also developed assay methods for optical isomers and high sensitivity mass spectrometry methods for identifying drug impurities.

Sphinx Pharmaceuticals: Sphinx Pharmaceutical announced the results of a Phase I human clinical trial on Kynac™ for the treatment of psoriasis. The results indicated that when administered as a topical ointment, it produced no significant skin irritation and no detectable absorption into the bloodstream. Kynac is designed to inhibit the activity of an intracellular enzyme, called protein kinase C (PKC), which has been demonstrated to mediate key cellular functions including inflammation and cell proliferation, that are involved in psoriasis.

November 16 Deadline National ACS Elections

By now, everyone should have received a ballot for the National ACS elections. Please note that ballots must be received by the end of the business day on November 16. Candidates for the office of President Elect are: Eli M. Pearce, Ned. D. Heindel and Benjamin J. Luberoff. Candidates for Director of Region Four are: Stephen T. Quigley from the Washington (DC) Section, Maurice M. Bursey from the North Carolina Section and William A. Nevill from the Northwest Louisiana Section.

1993 Workshops from the Division of Polymer Chemistry

January 18-21, 1993: "Recent Advances in Polyimides and other High Performance Polymers". Organizer: Paul M. Hergenrother, NASA Langley Research Center, Mail Stop 226, Hampton VA 23665-5225, Phone: (804) 864-4270, FAX: (804) 864-8312. Location: Nugget Hotel, Sparks, Nevada (near Reno). Sponsored by: The ACS Division of Polymer Chemistry, Inc. The workshop will feature lectures on recent developments in the synthesis, characterization, fabrication, applications and markets for polyimides and other high performance polymers. There will be an opportunity to present additional work in poster sessions.

February 28-March 3, 1993: "Solid State NMR Spectroscopy of Polymers". Organized by Alan D. English, Du Pont, P. O. Box 80356, Wilmington DE 19880-0356, Phone: (302) 695-4851, FAX: (302) 695-8207 and by Alan A. Jones, Department of Chemistry, Clark University, Worcester MA 01610-1477, Phone: (508) 793-7113 and (508) 793-8861. Location: Keystone Resort, Keystone, Colorado. Sponsored by: The ACS Division of Polymer Chemistry, Inc. Topics to be covered at the workshop include: the use of NMR methods to characterize polymer

structure and dynamics, molecular modeling and theory, molecular diffusion, concentrated solution behavior, and NMR methodology. Poster presentations will be an integral part of the meeting and are solicited.

Workshop on Biomedical Sensors for Cardiovascular Applications

This workshop will be held February 1-2, 1993 at the Washington Duke Inn (adjacent to the Duke University campus) in Durham. The sponsors are NSF/Engineering Research Center for Emerging Cardiovascular Technologies and the Case Western Reserve University Resource for Biomedical Sensor Technology. The Chairpersons for the workshop are Richard P. Buck (University of North Carolina) and Michael Neuman (Case). This workshop will present the state-of-the-art of sensor and associated instrumentation technology for understanding, evaluation and protection of the myocardium. Problems relevant to the development of these sensors will be addressed, and a set of specifications proposed for continued progress in the development of these devices.

Fee: all industrial affiliates or partners of the NSF/ERC can participate free of charge. All other participants will pay a \$150 registration fee.

For more information call Marianne Risley or Richard Lucic at (919) 660-5137 or write to NSF/ERC, 301 Engineering Bldg, Box 90295, Durham, NC 27708

ACS Public Outreach Office Established

Studies done on the attitudes of ACS members show most have a common concern: the public's image of chemists and chemistry. Public opinion polls verify the sad fact that most Americans believe that 1) chemical companies are the major polluters of the environment and 2) chemicals, *per se*, are harmful. Since the founding of the ACS, governance and public-communications staffs have worked hard to change these perceptions in favor of a realistic understanding of the way chemicals and chemistry affect human society. This small ACS group has won some battles, but it has lacked the manpower to win the war--Until Now!

The Public Outreach Program

In 1991, ACS executive director John Crum named former director of administration Ann Messmore to head the Office of Public Outreach, a new office charged 1) with blending the expertise of the staffs of several departments--the Department of Public Communication, National Chemistry Week, Marketing, The Development Office, Member and Subscriber Services, the Society's Ombudsman, and the Belmont Conference Center--and 2) with exploring new approaches to the public-image issue.

In its first year, the Public Outreach Program has developed an extensive public outreach plan. Central to the plan is the identification of target audiences, development of specific messages for each of those targets, and repeated delivery of the messages. But the critical component of the plan is the determination to mobilize the membership in a concerted public-outreach effort at the local section level.

Waking the Giant

The 144,000 members of the ACS--the largest scientific society in the world--are collectively one of the proverbial sleeping giants. Sufficiently awakened, they can make continuous and crucial contributions to the battle for public opinion.

Between August '91 and March '92, thousands of ACS members received a Volunteers in Public Outreach (VIP) Action List in the mail or saw it printed in ACSESS, and made a commitment to take action in their communities. The outreach activities they agreed to undertake range from simply wearing a button that states "I'm Proud to Be A Chemist!" to volunteering to chair their local section's public relations (PR) committee. Members are being trained at PR workshops offered at each national meeting and at selected regional meetings. Local section PR chairs are attending intensive three-day workshops at the Belmont Conference Center to learn how to organize for action, plan community outreach activities, and attract media coverage.

Looking Ahead

Initially, Public Outreach will focus its primary efforts on reaching only a small--but influential--portion of the general population. By targeting and tailoring messages and constantly measuring, evaluating, and redirecting programs and resources, we will move toward expanding that universe.

But the battle for public opinion can be won only by mobilizing the men and women of the ACS. Already more than 2,000 members have become Volunteers in Public Outreach and are working with schools and communities across the nation.

Joining Up

The road toward a better public image of chemistry could be long and difficult, but the first step is easy: Fill in and return the coupon below. The Public Outreach office will contact you.

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Please check all appropriate selections below and return to:

PUBLIC OUTREACH OFFICE, ROOM 711
American Chemical Society
1155 16th Street, NW
Washington DC 20036

- Send me the name & Tel # of my Local Section PR Chair. I'd like to get involved.
- Send me the dates, places & times of the 1992-93 public relations workshops.
- I want to be a VIP (Volunteer in Public) Outreach. Send me an action list of things I could do.

Name _____

Affiliation _____

City _____, NC

Zip Code _____ Phone (____) _____

Local Section: North Carolina

Job Related Information

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

RTI: In its October 5 listings of current openings at the Research Triangle Institute listed the following positions: **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. 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. S. in chemistry with 1-2 years of experience in chromatography and chemical analysis. Will assist in methods development and perform chemical analysis. **Chemist I/II** B. S. with experience or M. S. Will prepare radio labeled compounds and perform organic synthesis. **Five Postdoctoral Chemist** positions in organic synthesis and related areas.

Contact: Office of Human Resources, Research Triangle Institute, P.O. Box 12194, Research Triangle Park NC 27709-2194. (919) 541-6466.

LOOKING FOR A JOB?

Below is a descriptive list of such programs offered by the Offices of Employment Services and Professional Services. This list supplements the list of services given in the October issue.

OFFICE OF PROFESSIONAL SERVICES (OPS)

- **Career Consulting Program.** Offers career counseling to members of all ages and career stages. Consultants provide assistance with job search strategies, resume and interview preparation, and career advice.
- **Career Tutorials.** Offered at all national and some regional meetings, presents job search strategies and tools as well as career counseling in small group sessions.
- **Resume Forum.** Offered at all national and some regional meetings, offers group discussions on resume preparation as well as one-on-one appointments with career consultants.
- **Mock Interview Sessions.** Offered at all national and some regional meetings, gives the chemist the opportunity to video tape a mock interview and receive feedback from ACS personnel on ways to improve.
- **Phone Assistance.** Members can call Professional Services or Employment Services to gain information related to all OPS and OES services and data collection, as well as to discuss career questions or concerns.
- **Salary Survey.** Survey and analysis of salaries of chemists and chemical engineers is conducted annually. This information is published in C&EN and is used for many other written reports and presentations. Many chemists seek information over the phone to assist in career decision making.
- **Career Related Literature.** ACS produces several publications related to job hunting and career development such as "Coping with Job Loss" and the "Professional Employment Guidelines."
- **Presentations.** Professional development and employment outlook presentations are available upon request at local section and regional meetings.

For more information on the Professional Services programs call (800) ACS-5558 ext. 4432.

1993 ACS Dues Reminder

If you have not received your 1993 dues bill, please contact the ACS Department of Member and Subscriber Services at (800) 333-9511. If you have questions concerning your membership, please call Jean Parr, Manager, Office of Member Services at (202) 872-4414. *Additional Reminder:* In accordance with an ACS policy on grace period for unrenewed ACS journals and C&EN, ACS cannot continue to send C&EN and journals after February 28 to those members whose 1993 dues and subscription payments are not received by February 1. If you have questions about your dues bill or wish to charge your payment by phone, call (800) 333-9511 or (614) 447-3600. Be sure to have your credit card handy for ready reference.