

The TarHelium

Volume 25, Number 8

April 1995

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Polymer Discussion Group

Thursday, April 13, 1995

Gregory A. York

Shell Development Company

"Structure-Property Relationships In Siloxane Macromer Graft Copolymers"

NCSU Faculty Club

4200 Hillsborough St., Raleigh

5:30 p. m. Social Hour

6:30 p. m. Dinner* (members-guests:
\$15; students \$8)

7:30 p. m. Lecture

*Reservations by 5:00 pm, April 10 with
Richard Venditti in Raleigh at: 515-6185
or richard_venditti@ncsu.edu

Triangle Modeling Group

Monday, April 10, 1995

I. D. Kuntz

University of California, San Francisco

"Realities of Structure-based Design"

4:00 p.m. Rm. 111, Beard Hall, School
of Pharmacy, UNC-CH

109th Sectional Conference

NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Saturday, April 22, 1995

See program in center of this issue

May Polymer Meeting

First Annual Student Poster Session, May
11, 1995. See p. 6 for details

12th Triangle Chromatography Symposium and Instrument Exhibit

Thursday, May 18, 1995

Jane S. McKimmon Center

Raleigh, NC

See program on p. 3

Have A Good Summer!

The TarHelium

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

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W. L. Switzer (NCSU), SERM-98, Ex Officio	515-2945	bill_switzer@ncsu.edu

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

6010-General ACS
6052-Magnetic Resonance Spectroscopy Discussion Group
6054-Triangle Chromatography Discussion Group

6011-Polymer Discussion Group

6053-Mass Spectrometry Discussion Group

National ACS meetings:

April 2-6, 1995, Anaheim
December 17-22, 1995, Honolulu
March 24-29, 1996, New Orleans

August 20-24, 1995, Chicago

International Chemical Congress of Pacific Basin Societies

August 25-30, 1996, Orlando

Deadline for September Publication: August 1, 1995

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W. L. Switzer, Editor

S. T. Purrington, Assistant Editor

P. A. Flowers, Advertising

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 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: (910) 521-6247 Fax: (910) 521-6649 and Internet: paul@nat.pembroke.edu.

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

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
meminfo@acs.org

When communicating electronically, include your membership number and a return telephone number in your message. You may request membership applications electronically, but when completing them please write NC Section in the blank labeled Local Section/Division Commission Claim in the lower right hand corner of the first page. You may also request add/drop subscriptions among other services.

If you wish to receive job announcements and announcements of Local Section ACS events by electronic mail, please subscribe to the NCACS list. Send e-mail to: listserv@listserv.ncsu.edu. Include a one-line message saying: subscribe ncacs <your name>. To remove your name, send a message to the same address saying: unsubscribe ncacs. Other features of the list can be obtained by sending mail to the same address with the one-line message saying: info ncacs. The info file includes on-line job search information and a list of companies in the Section who hire ACS members. Questions may be addressed to the *TarHelium* Editor.

To subscribe to a Local Section bulletin board to discuss general topics of interest to the chemical profession, follow the same procedure described above, but include the one-line message saying: subscribe ncacsdialog <your name>. To post to the list, send mail to ncacsdialog@ncsu.edu.

To communicate with the entire Executive Committee, send mail to: acsexcomm@ncsu.edu.

On-line copies of recent issues of *The TarHelium* are now available on the Triangle FreeNet at the University of North Carolina, Chapel Hill. They can now be accessed on the www. The URL is:

gopher://tfnets.ils.unc.edu/11/bus.d/prof.d/acs.d/tarhelium.d

The Triangle FreeNet also can be accessed. Its URL is:

http://tfnets.ils.unc.edu

From the FreeNet one can also reach the *TarHelium*. The path is:

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Professional organizations
ACS American Chemical Society
ACS *TarHelium* (newsletter)

The Triangle FreeNet includes a number of other features such as area job opportunities.

One may also telnet to: tfnets.ils.unc.edu with login: freenet and password: guest. Issues are archived under:

4. Business/
3. Professional organizations/
 1. ACS American Chemical Society/
 1. ACS *TarHelium* (newsletter)/

Alternatively one may reach the server by gopher. From the State of North Carolina:

University of North Carolina at Chapel Hill, Info system
Other information services
Triangle Free-Net development gopher
Business
Professional organizations
ACS American Chemical Society
ACS *TarHelium* (newsletter)

Index to Advertisers

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Micron Inc. - p. 3
Quantitative Technology Inc. - p. 6

Uncle ACS Needs You!

by Mike Riebe, Chair; (919) 941-3608 work, (919) 941-4210 (fax), (919) 870-9712(h) or e-mail: MTR7984@glaxo.com

Help! We need volunteers to participate in many of the activities that the North Carolina Section of the ACS is involved in. As the Chair of the local section this year, I have quickly come to the realization that what really makes our section good is the involvement of its members. At the moment, I would guess that there is a core of about 10 people who really keep the local organization afloat. People like Bill Switzer who compiles and publishes *The TarHelium* that you're reading. That's not very many for an organization of over 2200! And the magnitude of the tasks, like editing *The TarHelium*, are directly proportional to the membership size. It's easy to get burned out or over committed. We need your help to expand the services that we provide locally. Please take a minute to look over some of the opportunities I've outlined below and try to reach me to tell me how you can help. My phone numbers, fax number and e-mail address are given on the by-line.

***TarHelium* Editor or Assistants:** Bill Switzer has been in this role for several years and feels the time is right for a change. This is the key mechanism for communication within the local section. It includes seminar announcements, job postings, and local chemistry news. You can help us to keep this information flowing to our members as we move into a new era of on-line communication.

National Chemistry Week: During one week in November, chemists nationwide will be sharing the fascination and accomplishments of chemistry with people in their communities. We need volunteers to help make presentations at schools, have booths at malls, help with demonstrations at the Museum of Life & Science, and whatever else you can think of.

Short Course Coordinators: We have the opportunity to bring ACS short courses to the Triangle at rates of about 1/4 of what they are at national meetings. We need someone who is willing to help accomplish that by planning, advertising, and coordinating the events.

Education & Outreach: We haven't done nearly as well as we should in helping our public school teachers understand chemistry and make use of the teaching aids and experts in the area. We need some folks to take a leadership role in establishing and coordinating this kind of activity.

Fall Symposium: We need a topic, program chair, facility coordinator and lots of others to be able to put on a first-class symposium that will attract several hundred attendees and bring top-notch researchers to the Triangle to discuss their work. The 1993 and 1994 topics were Molecular Modeling and Magnetic Resonance, respectively.

Public Relations: Keeping the local media informed of section activities, accomplishments of local members, and serving as a scientific resource to journalists working on technical stories.

Others: We have committees for awards, long-range planning, membership, professional relations, programming, public relations, and safety. And if you can think of something else that you think we should be doing that doesn't fit into any of these categories - let me or another Executive Council member know!

12th Triangle Chromatography Symposium and Instrument Exhibit

Thursday, May 18, 1995
Jane S. McKimmon Center
Raleigh, NC

Each talk in the symposium is scheduled for 45 minutes followed by a coffee break to give time to visit the instrument exhibit and poster session. The exhibit and poster session will be open all day and authors available for part of the day. Awards for the posters will be made at second afternoon break.

Morning Session:

- 8:25 Introduction - Bob Bickler, TCDG President
8:30 Walter Jennings, J&W Scientific, "Evolution of the GC Column: Past, Present, Future"
10:00 Raymond P. W. Scott, "Molecular Interactions and Their Control of Chromatographic Retention"
11:15 Michael B. Thomas, Hewlett-Packard, "HPLC Instrument Manufacturers' Response to GLP Requirements"

Afternoon Session:

- 1:25 Presiding - Jim Raymer, TCDG Program Chairman
1:30 Csaba Horvath, Yale University, "Hydrophobic Interaction Chromatography: Thermodynamic Foundations and Practical Applications"
3:00 Arthur Moseley, Glaxo Research Institute, "Exploiting the Synergism Between Chromatography and Mass Spectrometry for the Rapid Discovery and Development of Pharmaceuticals"
4:15 Tom Wheat, ATI Separations Group, "Chemometric Analysis of Diode Array Detection Data as a Tool for Developing Methods in Capillary Electrophoresis"

Registration: NCSU McKimmon Center Office of Continuing Education-7401 (Joni Tanner, program code TOTC95), Raleigh NC 27695; (919) 515-2261.

Cost: Advance: \$30 general, \$10 students
On-Site: \$40 general, \$15 students

1	Micron Inc. - p.
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3	Analytical Services
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5	3815 Lancaster Pike
6	Wilmington DE 19805
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TarHelium and FreeNet on WWW

The TarHelium can now be accessed on-line directly via the www. The URL is:

gopher://tfnet.ils.unc.edu/11/bus.d/prof.d/acs.d/tarhelium.d

Issues are archived since January 1994. This is not a formatted version, but the text is complete.

The Triangle FreeNet also can be accessed. Its URL is:

<http://tfnet.ils.unc.edu>

From the FreeNet one can also reach the TarHelium. Its path should look familiar to those who have accessed the TarHelium via the gopher:

Business
Professional organizations
ACS American Chemical Society
ACS TarHelium (newsletter)

The Triangle FreeNet includes a number of other features such as area job opportunities.

Thanks to Judy Hallman, UNC, for her help in posting the TarHelium every month.

Gov't Affairs Newsletter on WWW

by David R. Schleicher, ACS; slga@acs.org

The "State and Local Reaction"--the newsletter of the American Chemical Society State and Local Government Affairs Program--is now accessible via the ACS page of the World Wide Web. It can be viewed through programs such as Netscape, Mosaic, and Prodigy, or through a gopher that allows text access to World Wide Web sites. The URL is:

<http://www.acs.org/pafgen/slreact/slrmenu.htm>

If we may be of assistance to you on this or other matters, please let us know. You may contact us by e-mail at the above address or at 202/872-4391.

Area Seminars

by Maja Kricker, Kricker%NIEHS.bitnet@cunyvm.cuny.edu

- Apr 4 Peter Schultz, University of California, Berkeley, "New Opportunities at the Interface of Chemistry and Biology", Duke
Apr 7 Ralph G. Pearson, University of California-Santa Barbara, "The Principle of Maximum Hardness", Duke
Apr 10 I. D. Kuntz, University of California, San Francisco, "Realities of Structure-based Design", TMMDG (see front cover)
Apr 10 Paul Grieco, Indiana University, "Cycloaddition Reactions in Polar Media", NCSU
Apr 11 Mike Whangbo, North Carolina State University, "Interpreting STM (Scanning Tunneling Microscopy) and AFM (Atomic Force Microscopy) Images", UNC
Apr 11 Walter Kohn, University of California-Santa Barbara, "Density-Functional Theory in Physics and Chemistry: An Alternative View of Electronic Structure", Duke
Apr 12 Walter Kohn, University of California-Santa Barbara, "Density-Functional Theory with Long-Range Polarization Effects", Duke
Apr 13 Gregory A. York, Shell Development Company, "Structure-Property Relationships In Siloxane Macromer Graft Copolymers", PDG
Apr 13 Richard McPhail, Duke University, "Stimulated Gain Spectroscopy: A Different View of Dynamics in Liquids and Glasses", UNC

- Apr 14 Kevin Burgess, Texas A&M University, "Synthesis and Applications of 2,3-Methanoamino Acids", Duke
- Apr 17 Steve Feldberg, Brookhaven National Labs, "Investigations of Heterogeneous Electron Transfer with Self-Assembled Monolayers", NCSU
- Apr 20 Joshua Socolar, Duke University, "Quasicrystal Structure and Stability", UNC
- Apr 21 Anna Brajter-Toth, University of Florida, "New Frontiers in Electroanalytical Measurements", Duke
- Apr 22 109th NC Local Section Conference, University of North Carolina-Chapel Hill, ACS
- Apr 24 Curt Monnig, University of California at Riverside, "Electrokinetic Capillary Chromatography with Cascade (Dendritic) Polymers as the Pseudo-Stationary Phase", UNC
- Apr 24 Barry M. Trost, Stanford University, "Designing Active Sites for Molecular Recognition in a Synthetic Reaction", Duke
- Apr 24 Arthur Ellis, University of Wisconsin, "Elements of Curriculum Reform. Putting Solids in the Foundation", NCSU
- Apr 25 Tim Swagger, University of Pennsylvania, "New Materials from Molecular Building Blocks: Liquid Crystals with Unusual Structures", UNC
- Apr 25 Arthur Ellis, University of Wisconsin, "Chemical Sensors Based on Semiconductor Photoluminescence", NCSU
- Apr 27 Piotr Piotrowiak, University of New Orleans, "The Role of Molecular Orbital Symmetry and Ion Pairing in Intramolecular Charge Transfer Processes", UNC
- Apr 28 Michael Levitt, Stanford University, "computer Simulation of Protein Folding and Protein Unfolding", Duke
- May 5 Richard Smalley, Rice University, "The Nanowire Challenge", Duke
- May 11 "Research Triangle Student Symposium", PDG
- May 18 12th Triangle Chromatography Symposium and Instrument Exhibit, TCDG see program p 3
- ACS-American Chemical Society general meeting. Call Bill Switzer 515-2945 (NCSU). Voice Mail 541-7183, box 6010
- PDG-Polymer Discussion Group. Call Richard Venditti at NCSU: 515-6185 or richard_venditti@ncsu.edu. Voice Mail 541-7183, box 6011
- TCDG-Triangle Chromatography Discussion Group. Call John Hines 541-6647 (RTI). Voice Mail 541-7183, box 6054
- TMMDG-Triangle Molecular Modeling Discussion Group. Call Alex Tropsha 966-2955 (UNC-CH). 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.

Review: ACS Career Videos

by Anonymous

The ACS career video tapes and resume booklet are very well done. The "Career Transitions" video stresses taking a self-assessment to determine talents and interest. In addition, the video encourages the viewer to enhance or develop new job skills to increase job marketability and to enhance possible career opportunities in the future. The video also discusses the importance of being aware of the work environment, both at the current job and industry wide, so as the employment outlook changes the individual can make changes to his/her career in advance.

The video, "Formula for Success," discusses resume writing, networking and job searching. The video lists some good resources to aid in the job finding process that I had not thought of (e.g. the public library and the ACS.)

The resume booklet is useful. The booklet has four resume styles listed: chronological, functional, academic and government with examples provided for each style. I found the functional resume good for those wanting to make a career change.

Editors Note: At the Local Section Conference, a video player will be set up in Venable 220 for anyone wishing to view one or both of these tapes. After the conference, these tapes will again be made available to borrow.

Beckman Instruments, Inc. - p.

2
3 Chemical Instrumentation

4
5 Howard Rosenberg, Ph. D.

6 1210 Ashbrooke Dr.
7 West Chester PA 19380

8
9 (215) 429-1375 (PA)

10 (201) 818-8900 (NJ)

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Huffman Laboratories, Inc. - p.

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3 Elemental Analysis

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5 4630 Indiana Street

6 Golden CO 80403

7 (303) 278-4455

8 (303) 278-7012 (FAX)

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High School Teachers

by Dr. Sarah Allen, allen@odie.ncssm.edu

Fellow High School Teachers, if you'd like to request old **Chemistry Olympiad** Exams to use for review sessions with your students, contact Dr. Myra Halpin, NCSSM Science Dept., 1219 Broad Street, Durham, NC 27715; 919-286-3377 x(419); halpin@odie.ncssm.edu. This year's exams will be mailed to those of you who have registered to participate in time for the exam to be administered during the week of April 6-13th. Letters sent to those who have participated in previous years indicated that week, although *The TarHelium* announcement had the incorrect month for the testing. Please make a note of the correct test week and anticipate the exams at that time. I hope no one was inconvenienced by this error.

It is a good time to get your favorite chemistry colleague to submit a resume as a nominee for the **94/95 North Carolina ACS High School Chemistry Teacher Award**. Send the information to:

Dr. Charles Moreland, Chair
ACS Awards Committee
Campus Box 7003
North Carolina State University
Raleigh, NC 27695

Dr. Moreland will be able to consider information provided by May 1, 1995.

It is also time to get your application for the **ACS Professional Development Award** in if you have not already done so. These applications are due by May 1, 1995 to:

Dr. Michael Riebe, Chair '95
NC Section ACS
Glaxo INC., EP 2084
4 Moore Dr.
Research Triangle Park, NC 27709

The application for the Professional Development Award was run in the December and February Issues of *The TarHelium*. Remember this award is \$500 to be used for taking a course, attending a workshop, travel to present at a conference, or to fund a research project. So think about how you might be able to use it and get your application in soon!

Several items below have been previously announced, but are included as reminders.

The Science House at NCSU offers a number of workshops for teachers and those interested in doing outreach to elementary, middle and high school students. The **Countertop Chemistry** workshop for those working with students grades 4-8, will be held on four consecutive Monday's from 4:30-7:00 p.m. beginning April 3. All the step by step recipes will be given to make your classroom a chemical exploratorium. Instructions will be given for making glurch, slime, dancing spaghetti and many other ideas for laboratories that are safe and easy to put together. For grades 7-12, **Using Computers in the Laboratory** will be given from 9 a.m. - 4 p.m. April 18, 19 and 20. This workshop will share the experience of the Science House in using computers and microcomputer-based laboratory equipment to support science teaching in rural schools. Two other workshops that are less oriented towards chemistry, but which may be of interest are: **Digging Into Earth Science** (Teachers in Grades 4-9; four Wednesdays, 4:30-7:00 beginning March 8) and **Veterinary Medicine for Middle School Teachers** (Teachers in Grades 6-8; Saturday, April 8, 8 a.m.-1 p.m., Wednesday, April 12, 4:30-7:00 p.m. and Tuesday April 25, 4:30 -7:00 p.m.) All of these

programs have a \$20 registration fee, which will be refunded as part of a \$40 stipend upon successful completion of a course. Each course carries at least one hour renewal credit from the NC Department of Public Instruction. As a participant you will receive teacher material to use with your own classes. All classes meet on the NCSU Campus. Contact The Science House, Box 8211, North Carolina State University 27695-8211 or phone (919) 515-6118. **These workshops are supported by the Burroughs Wellcome Company.**

A chemistry on the road program is also available through the Science House for all levels K-12. The senior level program, which is entitled "**Chemical Energy Transformations**", explores the conversion of chemical energy to light energy, heat energy, electrical energy and kinetic energy and *vice versa*. For younger groups, the program focuses more on states of matter and transitions between them. The senior level program can be adapted for individual or combined 50-minute or 90-minute classes as well as for groups. This program supplements the popular physics on the road program that has been available for several years. Contact the Science House at the same address and phone number listed above or contact Bill Switzer directly, (919) 515-2945.

In the January 16 issue of the *C&E News* an article appeared describing the recently approved **Minority Scholars Program**. (You may request a reprint from *The TarHelium* Editor.) By September 1995 we will need to identify mentors for the scholarship winners. We need Local Sections members to help give support to these students. We believe that many of the scholars will be close to the living areas of our members. It is our goal to assign more than one mentor to a student. The volunteer members we seek are those who are willing to give both academic and emotional support. Being a mentor to these scholars does not require qualifying as a minority yourself. It requires a willingness to help, to give support over an extended period of time (either over the phone, or in person), an ability to listen, good one-on-one communication skills, and an open mind to explore other cultures. The rewards of such a relationship are significant. We will offer a pilot training program for mentors in Chicago at the ACS National Meeting. Please give us your support by volunteering to become a mentor. To express your interest, you may call or send an e-mail communication to Dorothy Rodmann, Administrator of the Minority Scholars Program. E-mail: dpr94@acs.org or by phone: (202) 872-6250 or (800) 227-5558 and (Press 9, 3, 5).

The **National Microscale Chemistry Center** is holding workshops for K-12 teachers as well as university level workshops. The Microscale Chemistry Workshops, Organic and General, offered by National Microscale Chemistry Center at Merrimack College, No. Andover, MA, for the summer of 1995 are now full. However, there is a waiting list for both of the workshops, and there is a good chance that many from the waiting list may get an opportunity to participate in the workshop. However, they also encourage registration now for 1996 workshops (subject to the availability of funding). Many have already started to sign up for these 1996 workshops.

There are few openings still available for the Inorganic Chemistry Workshop, 1995. The High School and Elementary Workshops for the Spring of 1995 are all full. However, there are several slots left for these Workshops in the Fall of 1995.

All workshops are offered FREE. However, there is a small registration fee for each Workshop. (High School Workshops - \$30; Elementary School Workshops - \$25; and, for week long Summer Workshops the fee is \$60.) If you have any questions,

please contact Mono M. Singh, Director, at (508) 837-5137, Fax (508) 837-5017. <MSingh@merrimack.edu>

This information was obtained from the National Microscale Chemistry List:

MICROSCALE-L@merrimack.edu>

To subscribe, send mail to:

listserv@merrimack.edu

Include the one-line message:

subscribe microscale-l <your name>

The subject line is ignored; <your name> is your name, not your e-mail address.

Please remember to get information to me so that the High School Chemistry Column will be useful in helping to keep us all aware of important happenings. S. Allen NCSSM 1219 Broad Street, Durham, NC 27715; 919-286-3366(225); or Allen@odie.ncssm.edu.

Quantitative Technology Inc. - p.

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Elemental Analysis

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5 PO Box 470

6 Whitehouse NJ 08888

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8 (908) 534-4445

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12 Feb, Mar, Apr, Sep, Oct and Nov

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University Grants and Contracts

American Cancer Society: "Nucleic Acids with Boronated Bases", **Barbara Ramsay Shaw**, Duke

Office of Naval Research: "Direct Writing of Electrically Conductive Organic Structures -- Applications in Nanolithography"., **Chris Gorman**, NCSU; "The Synthesis of Gallium-Arsenic Monomers, Chains, Cycles and Clusters," **Richard L. Wells**, Duke

Boehringer Ingelheim Pharmaceuticals: "Asymmetric Catalytic Synthesis of Leukotriene Biosynthesis Inhibitors", **M. J. Burk**, Duke

National Science Foundation: Career Award, "Polyhalometalates and Framework Solids: The Solvothermal Synthesis of Transition-Metal Halides", **Jim Martin**, NCSU; "Purchase of an X-Ray Diffractometer", **Robert Osteryoung**, PI, with scientific contributors **Robert Bereman**, **Paul Boyle**, **Daniel Comins**, **Charles Cornman**, **Russell Linderman**, **Jim Martin** and **David Shultz**.

Micro-Scale News

by George Wahl, George_Wahl@ncsu.edu

We'd like to begin a discussion of Micro-Scale (M-S) issues. Have you developed a new M-S experiment that you'd like to share with the community? Have you found an excellent M-S

book that you'd like to review? Are you holding a local M-S Workshop? Would you like to debate the "Pros and Cons" of M-S experimentation?

If you answered "Yes" to any of the above, we'd like to hear from you. Please call, e-mail, write or visit.

Professor George H. Wahl, Jr.
Chemistry - 8204
North Carolina State University
Raleigh, NC 27695-8204
(919) 515-2941

Area News

by Halbert H. Carmichael, halbert_carmichael@ncsu.edu

NCSU: Halbert Carmichael, professor of chemistry NCSU, led a group of Student Affiliates to Washington to view the Science and Society exhibit at the Smithsonian Institution. **Forrest C. Hentz, Jr.**, professor of chemistry at NCSU has been awarded the inaugural Board of Governors' Award for excellence in teaching. **Vivian T. Stannett**, professor emeritus of chemical engineering at NCSU has been elected to the National Academy of Engineering. Dr. Stannett is a former chairman of the North Carolina Section of the ACS.

UNC: Ernest L. Eliel is recipient of the George O. Pimentel Award in Chemical Education. At a symposium in his honor, he will give an address entitled: "Study abroad for chemistry majors," at the spring ACS meeting in Anaheim. **C. T. Culbertson** and **J. W. Jorgenson** are scheduled to participate in the "New Voices at the Frontiers" symposium at the same meeting. They will give a paper: "Resolution enhancement in capillary electrophoresis using flow-counterbalanced migration". Also at this meeting, **N. J. Pienta** will preside over the session, General Computer Applications, and will present a paper entitled "Organic chemistry toolbox: Self-help for students? or Nintendo for premeds?". **Pilip C. Singer**, professor of environmental sciences and engineering at UNC has been elected to the National Academy of Engineering.

May Polymer Group Meeting

Thursday, May 11, 1995

"First Annual Student Poster Session"

NCSU Faculty Club
4200 Hillsborough St., Raleigh

5:30 p. m. Social Hour

6:30 p. m. Dinner* (members-guests: \$15; students \$8)

7:30 p. m. Lecture

*Reservations by 5:00 pm, May 8 with Richard Venditti in Raleigh at: 515-6185 or richard_venditti@ncsu.edu

Galbraith Laboratories - p.

2

Microanalysis Services

3

4 PO Box 51610

6 Knoxville TN 37921-1750

7

8 2323 Sycamore Dr

9 Knoxville TN 37921-1750

10

11 (615) 546-1336

12 (615) 546-7209

13

Science Policy Fellowship

The ACS Science Policy Fellowship is designed for graduating students interested in a national science policy or faculty members who seek a unique sabbatical experience to lend expertise to the development of public policy. The fellowship has a two year term and is currently scheduled to begin in late Fall 1995. ACS membership is required, but a PhD is not required. The application deadline is May 1, 1995. Contact *The TarHelium* editor for a copy of the flyer or, for direct information, contact David L. Schutt at the ACS Office of Science Policy Analysis (202) 452-2127.

Wanted: Labs for Water/Soil Testing

Wanted: Information on commercial laboratories which do water or soil chemical testing. I am compiling a list of laboratories in North Carolina which offer chemical analyses of water or other environmental matrices for private individuals, business, or public institutions. I receive requests for this information periodically as do county Cooperative Extension Service personnel. Typical requests are for nitrate and organics, primarily pesticides. The following information from each lab is requested:

Name: _____

Address: _____

Phone: _____

Hours: _____

Types of Analysis: (e.g. nitrate-N, Kjeldahl-N, pesticides, etc.)

Types of Equipment Used: (e.g. Lachat, GC-FID, GC-MS, HPLC, etc.) Minimum/Maximum Number of Samples: (e.g. single from individuals, batches from groups, etc.)

Typical Charges: for each analyte, is screening done, how much for a single sample versus large numbers. I know this is difficult, but ballpark figures are needed to help people make decisions! Contact Person:

This list will go out to county Extension offices and will be freely distributed when requested.

Send this information to:

Dr. Richard A. McLaughlin
Campus Box 7619
Department of Soil Science
North Carolina State University
Raleigh, NC 27695

PHONE: 919-515-7306, FAX: 919-515-7494 or email to rmclaugh@wolf.ces.ncsu.edu

Job Openings

All job announcements are broadcast immediately upon receipt to the NCACS recipients list. If you wish to be included, see subscription instructions given on the front inside cover. The INFO file for the NCACS bulletin board has instructions on searching job opening with the State of North Carolina, North Carolina State University and University of North Carolina, CH.

Becton Dickinson & Co: Contact Human Resources Department PO Box 12016, RTP, NC 27709-2016. Postdoctoral Position: Industrial. Methods Development Scientist (Polymers and Biopolymers) Requires 3-5 years of mass spectrometry experience. A PhD in Analytical or Organic Chemistry is required.

Direct (and recent) experience with identification and characterization by hyphenated mass spectrometry techniques needed with the implementation and the experience of maintaining a library a plus. Strong technical and computer skills are essential. In addition, a working knowledge of GLP's and other government regulations is desired. Other aspects of technical support, including routine analysis will be expected. The ability to train and coach other technical staff is also required. NO RELOCATION AVAILABLE.

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

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

Glaxo: Job Line (919) 248-2565.

RTI: Contact: Research Triangle Institute, Office of Human Resources, PO Box 12194, Research Triangle Park NC 27709-2194. Phone: (919) 541-6466. Chemist I F0479 63A B.S./B.A. in Chemistry with training in organic synthesis. Will synthesize, purify and analyze organic compounds. Chemist I F0480 63A B.S./B.A. in Chemistry with training in organic synthesis. Will synthesize, purify and analyze organic compounds. Chemist I/II F0476 64A B.A./B.S. in Chemistry with basic organic & analytical chemistry skills including HPLC/GC analysis. Experience in working under GLP's helpful, computer literate, good writing, organization & manual dexterity skills. Duties: analytical chemistry support for toxicity studies. Chemist II/III J0280 91A B.S./M.S. in Chemistry with 1-3 years of experience in method development and proficiency in liquid gas chromatography (HPLC and GC). Will perform development/evaluation, trace organic analysis and do report preparation. Env. Scientist II/III (DC Office) J0285 91B B.S./M.S. in Chemistry, Environmental Sciences or equivalent with 1+yrs. exp. in env. field. Must be computer literate; good writing & interpersonal skills essential. Will support senior staff in reviewing/evaluating env. data collection & analysis projects, report & presentation preparation, proposal writing, & project planning. Postdoctoral Chemist F0472 63A Ph.D. in Organic Chemistry with research experience in organic synthesis. Will synthesize novel organic compounds. Postdoctoral Chemist F0478 63A Ph.D. in Organic Chemistry with research experience in organic synthesis. Will synthesize organic compounds. Res. Pharm/Biochemist/Toxco/I/II/III F0484 64A Ph.D. w/ experience in xenobiotic metabolism/disposition, abilities in modern chromatographic analysis by HPLC & capillary; GC, experience in use and analysis of radio isotopes, excellent interpersonal skills to effectively interact with clients and staff, excellent written skills to write clear reports in reasonable English. Will manage projects, take active lab role and supervise staff.

Help with Job/News Search

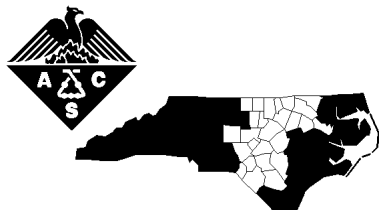
by Bill Switzer, bill_switzer@ncsu.edu

Although this is my last issue as editor of *The TarHelium*, I do remain interested in the content and in publicizing news from the Local Section as well as in publicizing job announcements. This summer, I will send my annual request for press releases and job openings from companies in the Local Section. Below is the most current list I have of companies, university and government laboratories who hire ACS members. If you can help update this list with additions and deletions, please contact me. My addresses can be found on inside cover. To subscribers of the NCACS listserver account, this list is available as part of the INFO file. It is periodically updated.

- ABB Environmental Services
6320 Quadrangle Dr
Chapel Hill NC 27514-7815
- Acurex Envir Corp
PO Box 13109
Res Triangle Park NC 27709-3109
- Airco Electronic Gases
PO Box 12338
Res Triangle Park NC 27709-2338
- Ajinomoto USA Inc
4020 Ajinomoto Dr
Raleigh NC 27610-2917
- Allied-Signal Corp
PO Box 166
Moncure NC 27559-0166
- Amsco Scientific
1002 Lufkin Rd
Apex NC 27502-8160
- Andcare Inc Ste 152
2810 Meridian Parkway
Durham NC 27713
- Ansell Edmont Inc
2906 Anaconda Rd
Tarboro NC 27886-8834
- BASF Corporation
26 Davis Dr.
Research Triangle Park NC 27709
(919) 248-6500
- Becton Dickinson & Co Research Center
21 Davis Dr.
Research Triangle Park NC 27709
(919) 549-8641
- BioAnalytika Labs Inc
2300 Englert Dr Ste A
Durham NC 27713-4450
- Boron Biologicals Inc
533 Pylon Dr.
Raleigh NC 27606
Phone: 832-2044
- Bristol Myers Co
PO Box 300
Morrisville NC 27560-0300
- Burroughs Wellcome Co
3030 Cornwallis Rd.
Research Triangle Park NC 27709
Phone: 248-3000
- Carolina Power & Light Co
Rte 1 Box 327
New Hill NC 27562
- Ciba-Geigy Biotechnology Research
3054 Cornwallis Rd.
Research Triangle Park NC 27709
(919) 549-8164
- CIIT
PO Box 12137
6 Davis Dr.
Research Triangle Park NC 27709
(919) 541-2070
(919) 541-9015 (fax)
- Coerr Envir Corp
6320 Quadrangle Dr Suite 320
Chapel Hill NC 27514-7815
- Compuchem Laboratories
3308 Chapel Hill-Nelson Hwy
Research Triangle Park NC 27709
(919) 549-8263
- Cotton Inc
PO Box 30067
4505 Creedmore Rd.
Raleigh NC 27622-0067
- Cray Research Inc
PO Box 12746
Res Triangle Park NC 27709-2746
- DuPont Corporation
PO Drawer Z
Fayetteville NC 28302-1770
- DuPont Electronics Technology Center
14 T W Alexander Dr.
Research Triangle Park NC 27709-4702
(919) 248-5000
- Ensys Inc
PO Box 14063
Res Triangle Park NC 27709-2057
- Entropy
PO Box 12291
Res Triangle Park NC 27709-2291
- Envir Tech Inst
PO Box 13127
Res Triangle Park NC 27709-3127
- Environmental Scientific, Inc
PO Box 13486
Research Triangle Park NC 27709
(919) 941-0847
- ESE Biosciences Inc
3208 Spring Forest Rd
Raleigh NC 27604-2822
- Family Health International
PO Box 13950
Res Triangle Park NC 27709
- Gel Environmental Consulting, Inc
PO Box 51961
3710 University Dr., Suite 208
Durham NC 27717-1961
(919) 493-3002
- Glaxo Inc
Five Moore Dr.
Research Triangle Park NC 27709
(919) 248-2100
- Harris Microelectronic Center
1 Micron Dr.
Research Triangle Park NC 27709
(919) 549-3100
- Hercules Inc
PO Box 12107
Research Triangle Park NC 27709
(919) 549-8468
- IBM Corporation
PO Box 12195
Research Triangle Park NC 27709
- IEA Inc
3000 Weston Pkwy
Cary NC 27513-2300
- INDA Assoc. of Non Woven Fabrics
1001 Winstead Dr Ste 460
Cary NC 27513-2117
- International Paper Company
4020 Struup Creek Dr No 200
Durham NC 27703
- KABI Pharmacia Inc
1899 Hwy 70 E
Clayton NC 27520
(919) 553-3831
- Lederle-Praxis Biologicals
4300 Oak Park
Sanford NC 27330-9550
- Liggett Group Inc
PO Box 1572 Research Dept
Durham NC 27702-1572
- Liofol Co
407 Gregson Dr
Cary NC 27511-6452
- Lord Corporation
405 Gregson Dr.
Cary NC 27511
- Macronex Inc
120 Southcenter Ct
Morrisville NC 27560
- Magellan Laboratories Incorporated
PO Box 13341
Research Triangle Park NC 27709
- Magellan Laboratories Incorporated
120 S. Center Ct. Ste 900
Morrisville NC 27560
(919) 481-4855
- Malinckrodt Inc
8801 North Blvd.
Raleigh NC 27615
Phone: 878-2800
- ManTECH Environmental Technology Inc
PO Box 12313
Research Triangle Park NC 27709-2313
(919) 549-0611
- MCNC Center for Microelectronics
3021 Cornwallis Rd.
Research Triangle Park NC 27709
(919) 248-1800
- Miles Inc
PO Box 507
8368 US Highway 70
Clayton NC 27520-0507
(919) 553-5011
- MTS Syst
PO Box 13218
Durham NC 27709-3218
- Mycosearch Inc Suite 6
4905 Pine Cone Dr
Durham NC 27707
- NC Biotechnology Center
79 T W Alexander Dr.
Research Triangle Park NC 27709
(919) 541-9366
- NC Super Computer Center
3021 Cornwallis Rd.
Research Triangle Park NC 27709
(919) 248-1100
- Newton Instr Co Inc
111 East A St
Butner NC 27509-2426
- NIEHS
PO Box 12233
Research Triangle Park NC 27709
(919) 541-3345
- Nova Nordisk
PO Box 576
State Road 1003
Franklinton NC 27525-0576
(919) 494-2014
(919) 494-5465 (fax)
- Organon Teknika Corporation
100 Akzo Av.
Durham NC 27704
- Protein Delivery Inc
2300 Englert Ste G
Durham NC 27713
- Radian Corporation
3200 E. Chapel Hill-Nelson Hwy
Research Triangle Park NC 27709
(919) 541-9100
- Raychem Corporation
PO Box 3000
Fuquay Varina NC 27526-93494
(919) 552-3811
- Reichold Chemicals
PO Box 13582
Research Triangle Park NC 27709
(919) 990-7500
- Research Triangle Institute
PO Box 12194
Research Triangle Park NC 27709
(919) 541-6000
- Resinall Corp
PO Box 195 Water St
Severn NC 27877
- Rex Hospital Laboratory
4420 Lake Boone Tr.
Raleigh NC 27607
- Rhone-Poulenc AG
PO Box 12014
Research Triangle Park NC 27709
(919) 549-2000
- Semiconductor Research Corporation
4401 T W Alexander Dr.
Research Triangle Park NC 27709
(919) 541-9400
- Shults and Assoc Ltd
6320 Quadrangle Dr
Chapel Hill NC 27514-7815
- Silicon Graphics
1000 Park Forty Plaza Ste 300
Durham NC 27713-2293
- Southern Research Institute
PO Box 12825
Research Triangle Park NC 27709-3825
(919) 403-0282
(919) 403-0284 (fax)
- Southern Testing and Research Labs
3809 Airport Dr.
Wilson NC 27896
- Specialty Chemicals Co
8801 Capital Blvd
Raleigh NC 27604-3116
- Sphinx Pharmaceuticals
PO Box 52330
Durham NC 27717-2330
- Sumitomo Electric Fiber Optics Corp
78 T W Alexander Dr.
Research Triangle Park NC 27709
(919) 541-8100
- Swift Adhesives R&D Ctr
2100 Ellis Rd
Durham NC 27703-5543
- The Lundy Packing Co
POB 49
Clinton NC 28328-0049
- Tri-Point Medical
5265 Capital Blvd
Raleigh NC 27604-2925
- Triangle Labs Inc Ste 240
6320 Quadrangle Dr
Chapel Hill NC 27514-7815
- Trigon Eng Consultants Pc
6003 Chapel Hill Rd Ste 101
Raleigh NC 27607
- Underwriters Labs Inc
12 Laboratory Dr
PO Box 13995
Research Triangle Park NC 27709
(919) 549-1400
- Union Carbide-UCAR Emulsions
410 Gregson Dr.
Cary NC 27511-6445
- Unisol Chem Corp
2051 Champagne Dr
Asheboro NC 27203-3282
- US Army Research Office
PO Box 12211
Research Triangle Park NC 27709
- US Forest Service
3041 Cornwallis Rd
Res Triangle Park NC 27709
- US-EPA
Research Triangle Park NC 27711
(919) 541-4577
- Webb Technical Group Inc
553 D Pylon Dr
Raleigh NC 27606-1466
- Educational Institutions:**
- Campbell University-Buies Creek
 - Duke University-Durham
 - Biochemistry
 - Botany
 - Chemistry
 - Environment
 - Medicine
 - Pathology
 - Pharmacology
 - Radiology
 - Durham Technical College-Durham
 - Elon College-Elon
 - Fayetteville State University-Fayetteville
 - North Carolina Central University-Durham
 - North Carolina State University-Raleigh
 - Animal Science
 - Biochemistry
 - Chemical Engineering
 - Chemistry
 - Crop Science
 - Entomology
 - Food Science
 - Marine Earth and Atmospheric Sciences
 - Materials Engineering
 - Physics
 - Soil Science
 - Textiles
 - Toxicology
 - Wood And Paper Science
 - Martin Community College-Williamston
 - Pembroke State University-Pembroke
 - University of North Carolina-Chapel Hill
 - Biochemistry
 - Biology
 - Chemistry
 - Dentistry
 - Environmental Engineering Science
 - Hematology
 - Medicine
 - Oncology
 - Pathology
 - Pharmacology
 - Radiation
 - St Andrews Presbyterian College-Laurinburg
- State/County/City Laboratories:**
- Constable Lab-Raleigh
 - EHNRC Chem Lab-Raleigh

109th Sectional Conference

NORTH CAROLINA SECTION AMERICAN CHEMICAL SOCIETY



Saturday, April 22, 1995

University of North Carolina
Chapel Hill, North Carolina

Reservations

The meeting is open to the public; however, reservations are required for the luncheon. The luncheon will be a catered buffet. All awardees, speakers, presiders, projectionists and workers are guests of the Section at the luncheon. Reservations have been made and luncheon tickets sent to all guests, except the awardees. Please send cancellations, however. The luncheon costs \$10 for other members and guests but \$5 for students and high school teachers. Please make reservations no later than 5:00 p. m., Wednesday, April 19. You may make or cancel reservations at the following locations: In Chapel Hill call Becky Smith, 962-2172; in Durham, Bonnie Turner, 660-1506; in Raleigh, Joyce Dunn, 515-2546; in Fayetteville, Sandra Smith, 486-1571; or by e-mail at Internet: bill_switzer@ncsu.edu

Registration

A registration table will be set up in the lobby of the Venable Hall. If you are not registered, please stop by and sign in to help us keep meeting statistics. Name tags, luncheon tickets and souvenir coupons were sent to all speakers, presiders and workers, but if there is a problem, please check at the registration table. Awardees may pick up the luncheon tickets at this table. Coupons for the souvenir T-shirt may be redeemed at this table. During the lunch hour following the awards ceremony, unclaimed shirts will be sold at cost. For those who have made reservations, please buy your luncheon ticket at this table also. **ACS Membership Application forms are available at the registration desk.**

50 Year Members

William L. Belvin	Raleigh
Gertrude B. Elion	Chapel Hill
Frank W. Melpolder	Durham
Walter C. Saeman	Chapel Hill
Vincent A. Sedlak	Cary

Acknowledgments

Program Chair: **Thomas Lehmen**; Arrangements: **Mike Crimmins**; Poster Session: **Cynthia Schauer**; Awards: **Charles Moreland**.

Career Videos

Venable 220

The ACS career video tapes and resume booklets will be available for viewing during the Section Conference. The titles of the tapes are "Career Transitions: Catalyst for Change" and "Formula for Success: Turning Job Leads into Gold." These are reviewed in this issue of *The TarHelium* and were described in December 1994 issue.

Analytical I

Venable 308

Louis A. Coury, presiding
Duke University

- 8:40 Tetrathiofulvalinium tetracyanoquinodimethane-based amperometric microsensors. Quan Xin, R. M. Wightman; University of North Carolina, Chapel Hill
- 9:00 Electrochemical studies of the interfacial effects of ultrasound. N. A. Madigan, C. R. S. Hagan, L. Coury; Duke
- 9:20 Electrochemical sensors based on enzyme amplification: determination of salicylate in whole blood. L. A. Coury, Jr., T. J. Moore; Duke
- 9:40 Square wave voltammetry for the surface reduction of monoazo dyes. Gang Xu, J. J. O'Dea, J. Osteryoung; North Carolina State University
- 10:00 Transport of Thallium(I) counterion in polyelectrolyte solution. Comparison between voltammetry with microelectrodes and PFGSE (pulsed field gradient spin echo) NMR. M. Ciszowska, L. Zeng, E. O. Stejskal, J. G. Osteryoung; North Carolina State University
- 10:20 Poster session and coffee break in Lobby Kenan

Analytical II

Venable 308

Charles Boss, presiding
North Carolina State University

- 11:00 Spectroscopic characterization and reaction mechanisms of the pulsed corona plasma. S. P. Shofran,¹ C. B. Boss,¹ P. A. Lawless;² ¹North Carolina State University, ²Research Triangle Institute
- 11:20 Observation of ethyl-substituted cyclohexanone and cyclopentanone rotamers using resonance enhanced multiphoton ionization spectroscopy. D. R. Nesselrodt, A. R. Potts, T. Baer; University of North Carolina, Chapel Hill
- 11:40 Scanning tunneling microscopy studies of quantum dot semiconductors. L. I. Halaoui, S. Kher, R. Wells, L. Coury; Duke
- 12:10 Awards presented in Room 207 Venable, then lunch

Analytical III

Venable 308

Edmond F. Bowden, presiding
North Carolina State University

- 1:20 Voltammetric study of counterion transporting solution of acidic polysaccharides. C. Scordilis-Kelley, J. Osteryoung; North Carolina State University

- 1:40 Measurement and characterization of charge transport in electroactive polymer electrolyte melts. J. W. Long, R. W. Murray, R. H. Terrill; University of North Carolina, Chapel Hill
- 2:00 Transport properties of gold ions in concentrated solution of LiCl. N. Isaev, J. Osteryoung; North Carolina State University
- 2:20 The effect of ultrasound on electrochemical detectability. E. L. Cooper, L. Coury; Duke
- 2:40 The distribution of rate constants of the electron-transfer reaction between thiol-modified gold electrodes and adsorbed cytochrome *c*. T. M. Nahir, E. F. Bowden; North Carolina State University
- 3:00 Analytical applications for Langmuir-type probes in an atmospheric pressure microwave induced plasma (MIP). W. L. Coker III, C. B. Boss; North Carolina State University

Analytical IV

Venable 310

Maurice M. Bursey, presiding
University of North Carolina

- 8:40 Self-assembled monolayer kinetics in polymer electrolytes. R. S. Ingram, R. W. Murray; University of North Carolina, Chapel Hill
- 9:00 Gutmann acceptor number of LiCl, NaCl and KCl neutral buffered chloro-aluminate room temperature molten salts. R. Mantz, R. Osteryoung, P. Trulove, R. Carlin, T. Sweem; North Carolina State University
- 9:20 Capillary electrophoresis of chiral mixtures: aqueous and nonaqueous media. Fang Wang, M. G. Khaledi; North Carolina State University
- 9:40 Effect of solvents in nonaqueous capillary electrophoresis (NACE). Bing Ye, M. G. Khaledi; North Carolina State University
- 10:00 Poster session and coffee break in Lobby Kenan

Analytical V

Venable 310

M. Judith Charles and Thomas N. Feinberg, presiding
Environmental Sciences and Engineering
University of North Carolina

- 10:40 Analytical application of negative ion attachment liquid chromatography/mass spectrometry (LC/MS). D. L. Norwood, D. L. Fisher, J. O. Mullis; Glaxo Research Institute
- 11:00 Influence of modifiers in mixed micellar electrokinetic chromatography. J. Bumgarner, M. G. Khaledi; North Carolina State University
- 11:20 Modeling of two step surface redox reactions. J. J. O'Dea, J. Osteryoung; North Carolina State University
- 11:40 Characterization of chemical selectivity in micellar electrokinetic chromatography. Shenyuan Yang, M. G. Khaledi; North Carolina State University
- 12:10 Awards presented in Room 207 Venable, then lunch

Biochemistry

Venable 221

Linda Martin, presiding

Visiting Scientist, North Carolina State University

- 8:40 Incorporation of heterogeneous enzyme distribution into a physiological model for benzene, phenol and hydroquinone. E. M. Kenyon, M. A. Medinsky; US EPA Health Effects Research Laboratory and Chemical Industry Institute of Toxicology
- 9:00 Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI TOF/MS) and protein structure: HIV p24. K. B. Tomer, C. Parker; National Institute of Environmental Health Sciences
- 9:20 Electrospray mass spectrometry of noncovalent oligonucleotide dimers. R. Anderegg, Jianmei Ding; Glaxo Research Laboratories
- 9:40 Atomic force microscopy of rDNA chromatin; a three-dimensional reconstruction. L. D. Martin, R. Miller,¹ D. Jondle,² D. L. Dobbs,² E. Henderson,² J. P. Vesenda,² Departments of Mathematics,¹ and Zoology and Genetics,² Iowa State University, Ames, IA
- 10:00 Poster session and coffee break in Lobby Kenan

Biochemistry and Polymers

Venable 221

Barbara Whittaker, presiding
Becton Dickinson

- 10:40 Immobilized Fe(III) metal affinity separation of phosphoprotein. L. D. Holmes,¹ K. Neville,² S. D. Plunkett,² ¹Pembroke State University, ²California Institute of Technology.
- 11:00 Kinetic studies of benzene and phenol oxidation by hepatic microsomes: a model incorporating two cytochrome P450s. P. S. Schlosser,¹ M. L. Lovern,² M. J. Seaton,¹ M. A. Medinsky;¹ ¹Chemical Industry Institute of Toxicology, ²North Carolina State University
- 11:20 Using methods of NMR spectroscopy to characterize and quantitate metabolites of ¹³C-labeled xenobiotics. S. J. Sumner; Chemical Industry Institute of Toxicology
- 11:40 Solid state ¹³C NMR observation of bulk poly(E-caprolactone)-polybutadiene block copolymer and its urea inclusion compound. N. Vasanthan, A. E. Tonelli; College of Textiles, North Carolina State University
- 12:10 Awards presented in Room 207 Venable, then lunch

Chemical Information and Education

Venable 224

William Switzer, presiding
North Carolina State University

- 10:40 Taking the right exits on the information highway. S. Benzra; consultant
- 11:00 The neglected element in sophomore organic chemistry. K. L. Bieda, S. T. Purrington; North Carolina State University

- 11:20 Quizzes to order: an electronic quizzing system. A. Banks,¹ J. J. Lagowski;² ¹North Carolina State University, ²Univ. of Texas at Austin
- 11:40 Enhancing the general chemistry laboratory experience. K. L. Bieda, S. T. Purrington; North Carolina State University
- 12:10 Awards presented in Room 207 Venable, then lunch

Inorganic I

Venable 222

Richard L. Wells, presiding
Duke University

- 8:40 Dimerization of functionalized olefins using electrophilic palladium allyl complexes. G. M. DiRenzo, M. Brookhart; University of North Carolina, Chapel Hill
- 9:00 Characterization of intermediates in the cluster-mediated two-electron reduction of H^+ to H_2 by $[Fe_3(CO)_9(\mu_3-PMn(CO)_2Cp)_2]^{2-}$. A. J. Marzec, P. S. White, C. K. Schauer; University of North Carolina, Chapel Hill
- 9:20 Synthesis and characterization of capped gallium arsenide quantum particles. S. S. Kher, R. L. Wells; Duke
- 9:40 Synthesis and characterization of potential precursors to boron arsenide and boron phosphide. M. S. Lube,¹ R. L. Wells,¹ P. S. White;² ¹Duke, ²University of North Carolina, Chapel Hill
- 10:00 Poster session and coffee break in Lobby Kenan

Inorganic II

Venable 222

Charles Cornman, presiding
North Carolina State University

- 10:40 Reactions involving sterically hindered silyl pnictogen compounds with group 13 trialkyls and trihalides. R. A. Baldwin,¹ R. L. Wells,¹ P. S. White;² ¹Duke, ²University of North Carolina, Chapel Hill
- 11:00 Synthesis and characterization of monodisperse oligomers of phosphorus capped metal clusters. M. Jordan, C. K. Schauer; University of North Carolina, Chapel Hill
- 11:20 Structural and ESR spectral studies of vanadium(IV)-vanadium(IV) dimers. Observation of $S = 0$ and $S = 1$ states. C. R. Cornman, Y. D. Boyajian, E. P. Zovinka, M. M. Olmstead, B. Noll; North Carolina State University and Univ. of California-Davis
- 11:40 Organoaluminum-pnictogen chemistry: synthesis, characterization, and decomposition studies of potential precursors to AlP, AlAs, and $Al_xGa_{1-x}E_y$ ($E = P, As$). J. A. Laske,¹ R. L. Wells,¹ P. S. White;² ¹Duke, ²University of North Carolina, Chapel Hill
- 12:10 Awards presented in Room 207 Venable, then lunch

Organic I

Venable 223

Suzanne T. Purrington, presiding
North Carolina State University

- 8:40 An approach to the total synthesis of serratinine -utilization of the [2+2] photocycloaddition. B. King, M. T. Crimmins; University of North Carolina, Chapel Hill
- 9:00 Synthesis of 5-substituted 2,3-dihydropyridones. Xinghai Chen, S. P. Joseph, D. L. Comins; North Carolina State University
- 9:20 Studies directed toward the total synthesis of taxusin. L. E. Guise, M. T. Crimmins; University of North Carolina, Chapel Hill
- 9:40 Chiral synthesis of α -carboxyglutamic acid derivatives. M. A. Schuerman,¹ K. I. Keverline,² R. G. Hiskey;¹ ¹University of North Carolina, Chapel Hill, ²Research Triangle Institute
- 10:00 Poster session and coffee break in Lobby Kenan

Organic II

Venable 223

Robert A. Izydore, presiding
North Carolina Central University

- 10:40 Synthesis, stability and hypolipidemic activity of 3,5-isoxazolidinediones, 1,3,5-triazabicyclo[3.1.0]hexane-4,6(1H,5H)-diones. D. E. Coleman, Xiaoming Zhou, D. L. Daniels, F. E. Frazier, I. H. Hall, R. A. Izydore; North Carolina Central University and Department of Medicinal Chemistry, University of North Carolina, Chapel Hill
- 11:00 Application of the asymmetric Pictet-Spengler reaction to natural product synthesis. P. Thakker, D. L. Comins; North Carolina State University
- 11:20 Diastereoselectivity in the Mukaiyama-Michael reaction employing tin and titanium complexes of α -acyl- β , γ -unsaturated phosphonates. L. A. Telan, S. A. Evans, Jr, C.-D. Poon; University of North Carolina, Chapel Hill
- 11:40 Hands-on mass spectrometry for synthetic chemists. Lester Taylor; Burroughs Wellcome.
- 12:10 Awards presented in Room 207 Venable, then lunch

Posters Session

Lobby Kenan

Cynthia Schauer, coordinating
University of North Carolina

9:40 am - noon

- Physical aging of glycerol in the glassy state by high resolution stimulated Brillouin gain spectroscopy. R. S. Miller, R. A. MacPhail, D. Kranbuehl; Duke
- Mechanisms for immobilization of a GPI-linked protein using single particle tracking analysis. E. D. Sheets, G. M. Lee, K. Jacobson, Depts. of Chemistry and Cell Biology; University of North Carolina, Chapel Hill.
- Effect of monomer sequencing on the morphological behavior of A(A/B)B copolymers. J. H. Laurer, R. J. Spontak, S. D. Smith, A. Ashraf, J. Samseth; Depart-

- ment of Materials Science & Engineering, North Carolina State University; Proctor & Gamble; Institutt for Energiteknikk (Norway).
- 4 Molecular modeling of human AChE and its complexes with inhibitors. A. C. Vidal, A. Tropsha; School of Pharmacy, University of North Carolina, Chapel Hill.
 - 5 Oligosaccharide structure determination on an ion trap. M. R. Asam, G. L. Glish; University of North Carolina, Chapel Hill
 - 6 Correlation of energy losses from collision-induced dissociation with observed peptide fragments. R. W. Vachet, A. Winders, G. L. Glish; University of North Carolina, Chapel Hill
 - 7 A practical demonstration of the obvious: diffusion can control the rate of ligand binding. J. Hoglen; SciComp
 - 8 Sonochemical deposition of metals on electrodes. L. A. Coury, Jr., N. Madigan, T. Murphy, J. Fortune, C. Hagan; Duke
 - 9 Electrospray ionization and tandem mass spectrometry of dyes. J. Fencel,¹ G. L. Glish,¹ R. Voyksner,² ¹University of North Carolina, Chapel Hill, ²Research Triangle Institute
 - 10 Mass spectrometry/mass spectrometry of alkali cationized peptides using a quadrupole ion trap. Tong Lin, G. L. Glish; University of North Carolina, Chapel Hill
 - 11 Characterization and quantitation of urinary metabolites of [1,2,3,4-¹³C]butadiene using ¹³C nuclear magnetic resonance spectroscopy. S. K. Nauhaus,^{1,2} J. A. Bond,¹ B. Asgharian,¹ S. Sumner;¹ ¹Chemical Industry Institute of Toxicology, ²Duke
 - 12 Surface modification of halobutyl rubbers. R. Rutway, M. Sumney, C. M. Balik; Department of Materials Science & Engineering, North Carolina State University
 - 13 Strategies for LDI/MALDI on a sector instrument. J. D. Lennon III, D. Shinn, R. W. Vachet, G. L. Glish; University of North Carolina, Chapel Hill
 - 14 Scanning tunneling microscopy of dental amalgams: North Carolina ACS Project SEED Research. L. A. Coury, Jr., M. Johnson; Duke
 - 15 Detecting metabolites in tissues of rats exposed to ¹³C-labeled acrylamide using NMR spectroscopy. S.-Y. Cheng,^{1,2} C. D. Brown,² T. R. Fennell,² S. C. Jenkins-Sumner;² ¹North Carolina State University, ²Chemical Industry Institute of Toxicology
 - 16 Interactions between a DNA ligand and thrombin. H. V. Hsieh, J. B. Pitner, G. P. Vonk, D. P. Malinowski; Becton-Dickinson Research Center
 - 17 Electrochemical investigation of the order-disorder phase transition in monodisperse polystyrene latex. J. M. Roberts, J. G. Osteryoung; North Carolina State University
 - 18 Hydrido tris(3,5-dimethyl pyrazolyl) borate complexes of platinum(IV). S. O'Reilly, P. S. White, J. L. Templeton; University of North Carolina, Chapel Hill
 - 19 Osmolyte induced global and local stabilization of iso-1-cytochrome *c*. A. J. Saunders, G. J. Pielak; Depts. of Biochemistry & Biophysics and Chemistry, University of North Carolina, Chapel Hill
 - 20 Stereoselective intramolecular cyclization of 2,3-dihydropyridones. Y.-M Zhang, S. P. Joseph, D. L. Comins; North Carolina State University
 - 21 Interdigitated array electrode sensor for copper species. J. Urbanik, J. Osteryoung, M. Goldberg; North Carolina State University
 - 22 Oxidation of tungsten(II) amido complexes. L. W. Francisco, J. L. Templeton, P. S. White; University of North Carolina, Chapel Hill
 - 23 Insertion of unsaturated substrates into M-H and M-C bonds of tungsten(II) complexes containing Tp'. D. S. Frohnapfel, P. S. White, J. L. Templeton; University of North Carolina, Chapel Hill
 - 24 Transition-metal mediated Diels-Alder reactions using [Tp'W(CO)(PhCCMe)]⁺. D. M. Mundt, J. L. Templeton, P. S. White; University of North Carolina, Chapel Hill
 - 25 Chemistry of {Tp'(CO)₂W}C-CH₃: deprotonation to form a vinylidene anion and subsequent reaction with electrophiles. B. Woodworth, P. S. White, J. L. Templeton; University of North Carolina, Chapel Hill
 - 26 Evolution by engineering: amino acid substitutions at the conserved helix-helix interface of cytochrome *c*. D. F. Doyle, G. J. Pielak, D. S. Auld, S. F. Betz, D. S. Cohen, S. A. Finger, Z. L. Fredericks, S. Hilgen-Willis, A. J. Saunders, J. J. Smallberries, S. K. Trojak; Department of Chemistry and Biochemistry & Biophysics, University of North Carolina, Chapel Hill.
 - 27 Origins of protein stability: entropic stabilization of a protein. D. S. Cohen, T. Baker, J. J. Pielak; University of North Carolina, Chapel Hill
 - 28 Mechanistic studies of palladium(II) copolymerization catalysts. J. Ledford; University of North Carolina, Chapel Hill
 - 29 Preparation and properties of *trans*-1,2-dibenzoylcyclopropane. M. Laney, S. G. Levine; North Carolina State University
 - 30 Surface-mediated oxidation of sulfides and sulfoxides. J. C. Tung, J. D. Fields, P. J. Kropp; University of North Carolina, Chapel Hill
 - 31 Stepwise oxidation of benzylamine coordinated to [Tp'W(CO)(PhCCMe)]⁺. T. B. Gunnoe, J. L. Templeton, P. S. White; University of North Carolina, Chapel Hill
 - 32 Silk fibroin regeneration from novel calcium salt solutions. A. Bagga, S. Hudson, A. Tonelli; College of Textiles, North Carolina State University
 - 33 Regio- and stereo-selective elaboration of W(II) bound alkynes. Photolytic removal of the alkyne. M. Wells, J. L. Templeton, P. S. White; University of North Carolina, Chapel Hill