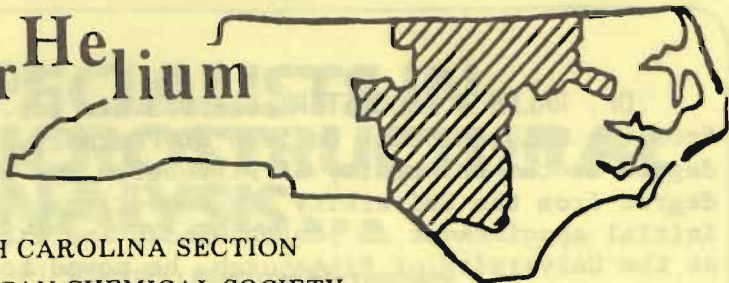


Tar^{He}lium



NORTH CAROLINA SECTION
AMERICAN CHEMICAL SOCIETY

Vol. 12, No. 7

Raleigh, NC

March 1982

"PLANTS AS A SOURCE OF DRUGS"

Colleague Ed Kilwein @ CSC

Speaker: Dr. Ralph N. Blomster Ph.D. Chem
University of Maryland
School of Pharmacy (Baltimore)
Chair of Med Chem & Pharmacology

Date: Thursday, March 18, 1982

Place: North Carolina Central University
Durham, North Carolina

Time: 5:30 Social Hour (Wine and cheese;
\$2.00 cover charge)
Eagle's Nest
Student Union (Directions enclosed)

6:30 *Dinner
Eagle's Nest
Student Union
(\$8.00 for members; \$4.00 for
students)

7:45 Program
112 Hubbard Chemistry Building

*Please make reservations by Monday, March 15, 1982.
Call Barbara Hannah at 966-1566 in Chapel Hill,
Terry Laing at 684-2414 in Durham, or Tana Taylor
at 737-2548 in Raleigh.

Dr. RALPH N. BLOMSTER received his B.S. degree from the Massachusetts College of Pharmacy, his M.S. degree at the University of Pittsburgh and his Ph.D. degree from the University of Connecticut. After an initial appointment in pharmacognosy and microbiology at the University of Pittsburgh, he moved to the University of Maryland where he serves as Professor and Head in the Department of Medicinal Chemistry and Pharmacognosy in the School of Pharmacy. His research includes natural product chemistry, plant tissue culture, biotransformations and folklore evaluation. He is editor of the American Society of Pharmacognosy Newsletter.

* * *

It is remarkable to what a large extent medical treatment for many centuries rested on the use of plants. Plants have given the field of medicine many useful drugs such as the pharmacologic prototypes digitalis, cinchona, ergot and opium to mention only a few. Man's first investigation of the plant kingdom was probably prompted by his dependence on plants as a source of food. From his varied observations of the effects of plants on himself, man's use of plants as arrow and weapon poisons, as haloucinogens and medicines slowly evolved. In the early days witch doctors, apothecaries and physicians used plants to treat disease, elevate mood and relieve pain. As the science of chemistry evolved, man learned to isolate the pure chemicals that cause the medicinal effect. Opium yielded codeine and morphine to relieve pain. Digitalis provided digitoxin for the heart. Ergot made available ergonovin and ergotmaine for migraines and childbirth. And paradoxically the synthetic LSD as a hallucinagen. The presence of such a wide and diversified group of compounds has prompted the search of plants for new narcotics, heart drugs, psychoactive and anticancer compounds. To many, drugs are produced synthetically but some 40% of all prescriptions include compounds of natural origin.

continued on page 4

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DIRECTIONS TO NCCU

From Expressway take Austin Ave. exit (Hwy 55) south to the NCCU campus. Turn right at Lawson St. and proceed to the second stoplight. Turn left at the light onto Fayetteville St. Travel 4 blocks (past the fire station on right), then turn left into the parking lot in front of the yellow brick student union. Enter south side door; the Eagle's Nest is in the basement.

DATE CHANGED FOR MEETING-IN-MINIATURE

A conflict between a short course at UNC and the Meeting-in-Miniature was accidently scheduled. To avoid this conflict the Meeting-in-Miniature has been moved to the afternoon of Saturday, April 24, 1982. The annual Meeting-in-Miniature will be held on the campus of North Carolina State University. An application form is enclosed. The deadline for receiving titles is Friday, March 19, 1982. Please respond early to facilitate preparing the complete program for the April TarHelium.

Contributions are encouraged from both academic and non-academic laboratories. Participation by government and industrial laboratories has increased over the last two years and the Executive Committee hopes that participation by non-academic labs will be greater again this year.

Also we would be delighted to have people attend this meeting even if they do not present a paper.

APPLICATION
Meeting-in-Miniature
Saturday, April 24, 1982
North Carolina State University
Raleigh, NC

Author(s): _____

Position(s): _____

Presented by: _____

Institution: _____

Title of Paper: _____

Section:	<input type="checkbox"/> Analytical	<input type="checkbox"/> Inorganic
	<input type="checkbox"/> Biochemical	<input type="checkbox"/> Organic
	<input type="checkbox"/> Chemical Education	<input type="checkbox"/> Physical
		<input type="checkbox"/> Polymer

Type: Regular Session Only: _____

*Either Regular or Poster Session: _____

*Poster Session Only: _____

Type of Projector (if any): _____

*If sufficient interest is shown, a poster session will be added to this year's program.

Application Deadline: Friday, March 19, 1982

Mail to: Dr. Louis D. Quin
Department of Chemistry
Gross Chemical Laboratory
Duke University
Durham, N. C. 27706

BY-LAWS VOTE TO BE RECONSIDERED

The Executive Committee has decided to publish again the proposed by-laws changes. We will vote on the changes at the first meeting having a quorum. (Regretfully the February meeting had a quorum easily but the vote was not announced; hence could not be taken). We hope that the Meeting-in-Miniature in April will afford another realistic opportunity for the vote. Please plan to participate at this meeting either by presenting a paper or at least by attending and voting.

Bylaw X: Finances

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

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Bylaw XI: Amendments

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

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

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ACS SHORT COURSE ON DIGITAL ELECTRONICS

May 24 and 25, 1982

Considerable interest was shown in electronics/computer short courses at all three levels suggested in the January TarHelium. Thus, the Section hopes to offer all three within the near future. The first short course will be entitled Elementary Digital Electronics. This course will introduce the electronic components which not only facilitate the transfer of data between digital computers and digital input/output devices, but also serve as building blocks from which these input/output devices are constructed. The course will begin with a description of electronic buffers and DC logic gates. Discussions will compare several types of logic gates and will proceed through most of the medium scale integrated circuits such as flip flops, shift registers, counters, etc. The course will conclude by considering in detail interfacing one or more chemical instruments with a microcomputer.

The short course instructor is Dr. David Smith from BurroughsWellcome Company. The course will be presented on two consecutive days, Monday and Tuesday, May 24 and 25, 1982 at Burroughs Wellcome. Registration will be \$40 for ACS members and \$50 for non-members. Application forms will be included in the next TarHelium. Further information may be obtained directly from Dr. Smith at Burroughs Wellcome, 541-9090.

CHEMISTRY IN THE WORKPLACE

A training course entitled "Chemistry in the Workplace" will discuss laboratory safety. This course, sponsored by the Piedmont Associated Industries and the North Carolina Triad Association of Occupational Health Nurses will be held at the Airport Hilton in Greensboro, N.C., Thursday and Friday, March 11 and 12, 1982. The program runs from 9:00 am to 4:30 pm each day. The registration fee is \$75 for the first person from each organization and \$50 for each additional person from the same organization. The resource person is Dr. Kenneth S. Cohen from Consulting Health Services, San Diego, CA. Advanced registration may be completed through the North Carolina Department of Labor, Education and Training Bureau, OSHA Division, 4 West Edenton Street, Raleigh, NC 27601, (919) 733-4880. Registration may be completed at 8:00 am on the first morning of the meeting.

CENTENNIAL SCHOLARSHIP AWARD

The North Carolina Section of the ACS announces its seventh annual CENTENNIAL SCHOLARSHIP AWARD for the summer of 1982. It carries a stipend of \$1000 (tax free). The Section no longer places any restriction on the award. Other support during the tenure of the award is allowed by the Section. However, the Section encourages applicants to follow any guidelines stipulated by his department or his research advisor.

Eligibility requirements:

- (1) Membership or Associate Membership in the American Chemical Society.
- (2) Attendance at a Graduate or Professional School within the geographic boundaries of the North Carolina Section of the ACS.
- (3) Successful completion of at least one year of graduate or professional study toward an advanced degree by the end of the academic year.

DEADLINE FOR RECEIPT OF APPLICATION IS MARCH 19, 1982.

Send application to: Ms. Kathryn MacLeod
508 Transylvania Ave.
Raleigh, N. C. 27609

Application must be accompanied with:

- (1) One copy of each of both the undergraduate and graduate (or professional school) transcripts (listing of courses and grades will be acceptable).
- (2) Two letters of recommendation: One from the research director and one from another graduate professor.
- (3) No more than a 1000 word written summary by the applicant of the research project, which must be in a chemically related area.
- (4) An outline of the portion of the work planned for the period of the award (summer 1982).

The Scholarship will be awarded on the basis of excellence of academic record, superior performance as a teaching assistant (where applicable), and promise in research and quality of application. It will be given *primarily* on the basis of past performance, rather than the quality of the actual research proposed. The award, which is not subject to renewal, will be announced at the Meeting-in-Miniature on April 24, 1982. The recipient is expected to give a 5-minute presentation on this work at one of the fall meetings of the Section.

SPECIAL AREA LECTURES

THE 1982 O. K. RICE LECTURES AT UNC-CH CHEMISTRY
(All lectures are in Venable Hall 308 at 11 am)

Professor RUDOLPH MARCUS of California Institute of Technology will speak on the following dates on the topics indicated:

- March 23: "Electron Transfer Reactions, Theory and Experiment"
- March 24: "Vibrational Energy Randomization in Molecules"
- March 26: "Proton Transfers and Related Reactions"

Professor BENJAMIN WIDOM of Cornell University will speak on the following dates on the topics indicated:

March 31: "Phase Equilibria and their Critical Points"

April 1: "Three-Phase Equilibria and their Tricritical Points"

April 2: "The Interfaces between Phases"

THE 1982 GOSSETT LECTURE AT NCSU SCHOOL OF TEXTILES
(Lecture held in Dabney Hall 124 at 3:30 pm)

Dr. SAMUEL SMITH of the 3M Research Center will speak on:

March 24: "Development of Fluorochemical Textile Treatments"

EXECUTIVE COMMITTEE REPORT

Two meetings of the Executive Committee have been held since the last report. Chairman, Kathryn MacLeod, proposed developing a committee to advise public officials on chemically related matters. Dr. William F. Gutknecht was appointed Chairman to study the proposal and formulate goals for this. In other action, restrictions were lifted on the recipient of the Centennial Scholarship which did not allow other support during the summer of the award. Also discussed was the proposed by-laws changes and a suggestion that vote be announced at every meeting and taken at the first one having a quorum.

The 1982 Budget was presented and approved with minor changes. A copy of the revised budget appears on page 10. The Section managed to operate in the black largely because of unexpectedly high incomes for advertising in the TarHelium and from interest on savings. Expenses were down largely because of a number of local meetings drew on local speakers.

After noting that income from short courses has become less certain in recent years, a suggestion was made to create a trust fund to support the Centennial Scholarship. The idea of a trust fund was forwarded to the Scholarship Committee to evaluate the advisability of such a fund and to study how it might be financed.

NORTH CAROLINA SECTION
 AMERICAN CHEMICAL SOCIETY
 PROPOSED BUDGET FOR 1982

<u>Income</u>	<u>1981 Proposed</u>	<u>1981 Actual</u>	<u>1982 Proposed</u>
ACS Allotment	5025	5025.00	5200
New Members	150	152.50	150
Savings Interest	850	1662.75	1250
Short Courses	3000	2226.00	2500
TarBelium Advertisements	200	1009.70	500
Other	-	424.73	-
Total Income	9225	10500.68	9600
<u>Expenses</u>			
<u>Awards</u>			
Scholarship Reserve Fund	-	-	300
Centennial Scholarship	1000	1000.00	1000
High School Students	100	52.50	100
High School Teacher	400	400.00	500
Total Awards	1500	1452.50	1900
<u>Donations</u>			
Polymer Group	100	100.00	100
N. C. Academy of Sciences	100	100.00	100
Total Donations	200	200.00	200
<u>Short Courses</u>			
Honoraria	1400	900.00	1000
Teaching Aids	200	279.57	200
Total Short Courses	1600	1179.57	1200
<u>Meetings</u>			
Honoraria	525	650.00	600
Travel and Expenses	1500	1075.16	1500
Social Hours and Meals	1000	273.40	900
Meeting-in-Miniature	-	57.50	200
Total Meetings	3025	2056.06	3200
TarBelium	2000	2403.45	2400
<u>Administrative</u>			
Travel	600	408.90	600
Miscellaneous	200	184.94	100
Contingency	100	-	-
Total Administrative	900	593.84	700
Total Expenses	9225	7885.42	9600

HIGH SCHOOL CHEMISTRY TEACHERS AWARD

Letters will shortly be sent to the principals of all high schools within the Section announcing the 1982 High School Chemistry Teachers Award. The award is a grant of up to \$400 for tuition and fees for any course or courses in the chemical sciences. Eligible candidates must teach within the Section which includes the following counties: Bladen, Caswell, Chatham, Cumberland, Durham, Edgecomb, Franklin, Granville, Halifax, Harnett, Hoke, Johnston, Lee, Martin, Moore, Nash, Northampton, Orange, Person, Randolph, Robeson, Sampson, Scotland, Vance, Wake, and Warren. Teachers who have interest should obtain further details from their principal or from the Section Chairman, Ms. Kathryn MacLeod, 508 Transylvania Ave., Raleigh, NC 27609. Members who know of high school chemistry teachers having interest should please bring this award announcement to their attention.

WORKSHOPS ON HAZARDOUS WASTE MANAGEMENT

The Industrial Extension Service at NCSU presents the workshop "Hazardous Waste Management Under the Resource Conservation and Recovery Act." Workshop development was supported by the N. C. Solid and Hazardous Waste Management Branch, a member of which will be on hand at the workshops to make presentations and to answer your questions concerning compliance with federal and state hazardous waste regulations.

Other topics include personnel training, required contingency plans and emergency procedures, in-plant and out-of-plant waste management practices. Participants will receive personnel training certification.

Dates and Locations for the Workshops are:

May 19-20, 1982 - Hilton, Wilmington, NC

May 24-25, 1982 - Ramada Inn, Hickory, NC

May 26-27, 1982 - Holiday Inn North, Charlotte, NC

Registration fee is \$125.00 and includes a manual, two lunches and coffee. Call Brooke Triplett at 919/737-3010 or Jerry Kohl at 919/737-2303 for more information. To register call Linda Watkins at 919/737-2356.



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- March 11 Dr. JAMES ECONOMY, IBM, "CCPP: A New Method for Preparation of Fibers," Polymer Group, 7:30 pm, NCSU Faculty Club, Raleigh.
- 18 Dr. SIDNEY M. HECHT, University of Virginia, "Studies on the Synthesis and Mechanism of Action of Bleomycin," 11:00 am, Room 308 Venable Hall, UNC-CH.
- 18 Dr. RALPH N. BLOMSTER, University of Maryland, School of Pharmacy, "Plants as a Source of Drugs," ACS Lecture, 7:45 pm, Room 112 Hubbard Chemistry Building, NCCU.
- 19 Dr. R. P. W. SCOTT, Perkin-Elmer Corporation, "The Mechanism of Solute-Surface Interaction in Reverse-Phase Separation," 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- 22 Dr. CARL BRUBAKER, Michigan State, "Polymer-Supported Metallocenes and their Applications to the Catalysis of Olefin Isomerization, Oligomerization, Epoxidation and Dinitrogen Fixation Reactions," 3:30 pm, 124 Dabney, NCSU
- 22, 24, 26 Dr. RUDOLPH A. MARCUS, California Institute of Technology, O. K. Rice Lectureship, 11:00 am, Room 308 Venable Hall, UNC-CH.
- 24 Dr. SAMUAL SMITH, 3M Research Center, "Development of Fluorochemical Textile Treatments," Gossett Lecture (School of Textiles), 3:30 pm, Room 124 Dabney Hall, NCSU.
- 25 Dr. CARL DJEASSI, Stanford University, Title to be announced, 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- 26 Dr. THOMAS G. SPIRO, Princeton University, "Hemoglobin Structure and Dynamics via Resonance Raman Spectroscopy," 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- March 31 Dr. BENJAMIN WIDOM, Cornell University, O. K. Rice Lectureship, 11:00
April 1, 2 am, Room 308 Venable Hall, UNC-CH.
- 2 Dr. WILLIAM DOERING, Harvard University, "Not-obviously-concerted Thermal Rearrangements--The Internal Rotational Factor," 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.
- 5 Dr. GEORGE BÜCHI, Massachusetts Institute of Technology, Title to be announced, 3:30 pm, Room 124 Dabney Hall, NCSU.
- 9 Dr. JERROLD MEINWALD, Cornell University, "The Insect as Organic Chemist," 3:30 pm, Room 103 Gross Chemical Laboratory, Duke.

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