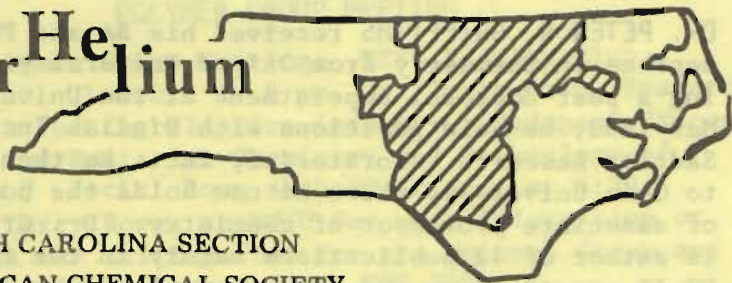


# Tar Helium



NORTH CAROLINA SECTION  
AMERICAN CHEMICAL SOCIETY

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Vol. 9, No. 2      Raleigh, N.C.      October, 1978

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## "DIFFUSE REFLECTANCE INFRARED SPECTROSCOPY"

Speaker:    Dr. Peter Griffiths  
              Ohio University

Date:        Tuesday, October 17, 1978

Place:       Duke University  
              Durham, North Carolina

Time:        5:10    Happy Hour  
                      Flowers' Lounge  
                      (101 Flowers' Bldg; adjoins  
                      Union on side nearer chapel)

              6:10    \*Dinner  
                      Oak Room  
                      (order from Menu)  
                      (Student and affiliate members  
                      half price)

              8:00    Lecture  
                      103 Gross Chemical Laboratory

\* Reservations not necessary.

DR. PETER R. GRIFFITHS received his BA and PhD degrees in Chemistry from Oxford University. Following a post-doctoral appointment at the University of Maryland, he held positions with Digilab Inc. and Sadtler Research Laboratories, Inc. He then moved to Ohio University where he now holds the position of associate professor of chemistry. Dr. Griffiths is author of 42 publications mainly in the field of FT-IR spectroscopy and is author of one book and editor of another on the same subject.

\* \* \*

Until recently, measurement of the diffuse reflectance infrared spectra of solid samples has been considered to be unsatisfactory at best. Conventional sampling accessories used for measuring the diffuse reflectance spectra of powders in the ultraviolet region proved inefficient in the infrared, so that spectra had to be measured either at excessively low signal-to-noise ratio or at excessively low resolution. By using the powerful combination of Fourier transform infrared (FT-IR) spectroscopy and efficient ellipsoidal or paraboloidal collecting mirrors, we have found that diffuse reflectance infrared spectra can be readily measured. Such devices allow analytical chemists to study a variety of previously intractable samples. Examples will be given for intact pharmaceutical tablets, coals, treated leaves and other samples. The feasibility of quantitative analysis by diffuse reflectance spectroscopy will be discussed. Surprisingly, the technique proves remarkably powerful for infrared microsampling, with submicrogram sensitivity being readily attainable. This property has been applied in the design and construction of an automated device for identifying peaks eluting from a high performance liquid chromatograph after elimination of the mobile phase. We believe that in the next couple of years, diffuse reflectance infrared spectroscopy will be proven to add an important tool in the armory of analytical chemists.



## POLYMER GROUP MEETING

First Polymer Group Meeting: NCSU Faculty Club, October 20. Lecture at 8 pm, Dr. Janos Dobo, Research Institute for the Plastics Industry, Budapest. "Recent Work on the Radiation Chemistry and Technology of Polymers." Social Hour at 5:30; Dinner at 6:30. Contact Larry Bowen at NCSU for more information or to get on the mailing list for the Polymer Group and also for reservations. Phone 737-2995.

## REPORT FROM NOMINATING COMMITTEE

At the October meeting, the nominating committee plans to place into nominations the slate of candidates shown below. Nominations will also be accepted from the floor, but the person making the nomination is asked 1) to verify the candidates willingness to run and 2) to have a short prepared biography for inclusion on the ballot.

Chairman-elect:	Forrest Getzen	NCSU
	Sally Horner	Meredith
Treasurer:	Arthur Diesing	Liggett & Myers
	Robert Izydore	NCCU
Councilor:	Maurice Burse	UNC-CH
	Richard Thompson	EPA
Alternate		
Councilor:	William Gutknecht	RTI
	Colin Pitt	RTI

## SAFETY GUIDE TO OSHA STANDARDS

In February, 1979, the Chicago Section of the American Chemical Society will publish a supplementary reference issue of THE CHEMICAL BULLETIN called THE LABORATORY SAFETY DESKBOOK I: A GUIDE TO OSHA STANDARDS. Cost \$10/copy. Order requests should be send to Business Manager, The Chemical Bulletin, 86 E. Randolph St., Chicago, IL 60601. For further information, contact: Dolores Kenney 312/236-3036.

## AREA SEMINARS

- Oct 11 Dr. J. A. FERGUSON, Clairol Research Laboratories and Dr. J. H. PATTERSON, Celanese Corporation, "Differences between Academic and Industrial Research: Career Day Program," 11:00 a.m., Room 308 Venable Hall, UNC-CH.
- 13 Dr. STEPHEN MORGAN, University of South Carolina, "Optimization Techniques in Analytical Chemistry," 3:30 p.m., Room 103 Gross Chemical Laboratory, Duke.
- 18 Dr. GEORGE FLYNN, Columbia University, "Laser Chemistry: Is Energy Transfer the Spoiler?," 11:00 a.m., Room 308 Venable Hall, UNC-CH.
- 20 Dr. JANOS DOBO, Institute for the Plastics Industry, Budapest, "Recent work on the Radiation Chemistry and Technology of Polymers," 8:00 p.m., NCSU Faculty Club.
- 25 Dr. THEODORE KUJANA, Ohio State University, "Electrocatalysis Using Chemically Modified Electrodes," 11:00 a.m., Room 308 Venable Hall, UNC-CH.
- 25 Dr. LINDA L. SPREMULLI, University of North Carolina-Chapel Hill, "Organization of Genetic Information in Higher Cells and the Location of the Gene for a Chloroplast Protein Synthesis Factor," 3:30 p.m., Room 112 Hubbard Chemistry Building, NCCU (Durham).
- 27 Dr. PAUL H. KASAI, Union Carbide Corporation, "Electron Spin Resonance Study of Organometallic Complexes Generated in Rare Gas Matrices," 3:30 p.m., Room 103 Gross Chemical Laboratory, Duke.
- 27 Dr. G. M. HORLICK, University of Alberta, "Fourier Transform Infrared Spectroscopy," (Note date changed from Departmental Announcement), 4:00 p.m., Room 124 Dabney Hall, NCSU.
- Nov 1 Dr. JACK R. NORTON, Princeton University, "The Chemistry of Mononuclear and Polynuclear Alkyl Hydrides," 11:00 a.m., 308 Venable Hall, UNC-CH.
- 3 Dr. PAUL SCHATZ, University of Virginia, "Magnetic Circular Dichroism and the Jahn-Teller Effect," 3:30 p.m., Room 103 Gross Chemical Laboratory, Duke.
- 10 Dr. D. HENRY, Burroughs Wellcome Corporation, Title to be announced, 3:30 p.m., Room 103 Gross Chemical Laboratory, Duke.

## OFFICERS OF POLYMER GROUP ACS 1978-79

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CHAIRMAN-ELECT (Program CHM)	William K. Walsh	NCSU
SECRETARY	Lawrence H. Bowen	NCSU
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SIXTH ANNUAL ACS CHEMISTRY AND PUBLIC AFFAIRS  
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- To provide an opportunity for scientists to gain firsthand knowledge of the operations of the legislative and executive branches of the federal government.
- To make available to the government an increasing amount of scientific and technical expertise.
- To broaden the perspective of both the scientific and governmental communities regarding the value of such scientific-governmental interaction.

For further information call (202) 872-4383.

Applications should be submitted by January 19, 1979  
to the: Department of Chemistry and Public Affairs  
American Chemical Society  
1155 - 16th St., N.W.  
Washington, D. C. 20036



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