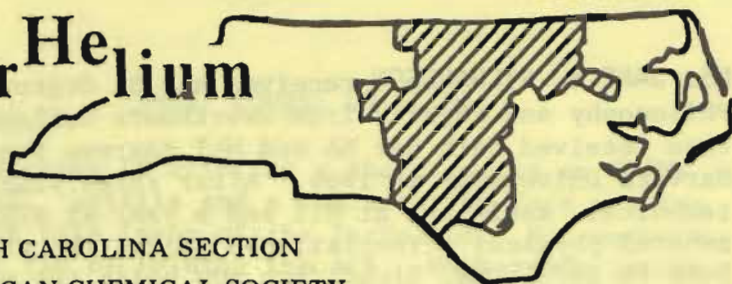


# Tar Helium



NORTH CAROLINA SECTION  
AMERICAN CHEMICAL SOCIETY

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Vol. 9, No. 1      Raleigh, N.C.      September, 1978

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## "THE ANATOMY AND TAXONOMY OF PROTEIN STRUCTURE"

Speaker:      Ms. Jane S. Richardson

Date:          Tuesday, September 19, 1978

Place:         North Carolina State University  
Raleigh, North Carolina

Time:          5:30 Happy Hour  
McKimmon Extension Education  
Center (East of beltline on  
Western Blvd. at Gorman St. on  
southwest side of NCSU campus;  
enter parking area from Gorman St)

6:30 \*Dinner  
McKimmon Ext. Edu. Center  
(\$6.00 full members; \$3.00  
student and affiliate members)

8:00 Lecture  
McKimmon Ext. Edu. Center

\*Please make reservations by Friday, September 15, 1978. Call Sue Hester at 966-1566 in Chapel Hill, Terry Laing at 684-2414 in Durham or Linda Hill at 737-2548 in Raleigh.

MS. JANE S. RICHARDSON received her BA degree in Philosophy and Physics from Swarthmore College. She then received both her MA and MAT degrees from Harvard University in 1966. After three years as a technical assistant at MIT and a year at NIH as a general physical scientist, she joined the staff at Duke in 1970. Ms. Richardson now holds the position of Associate in the Department of Anatomy.

\* \* \*

Now that detailed 3-dimensional structures are known for well over 100 proteins, it is becoming possible to make generalizations about the common types of local structures, the ways in which those local structures combine with each other and the structural similarities among different proteins. As well as the classical  $\alpha$ -helix and  $\beta$  sheet, we will consider such features as tight turns,  $\beta$  bulges, crossover connections,  $\beta$  barrels, helix-helix contacts, and commonly occurring topological patterns. About half of the known protein structures fit into six rather simple types. These will be illustrated, and the possible evolutionary implications explored.

### ELECTION OF OFFICERS

The offices to be filled this year are Chairman-Elect, Treasurer (2-year term), Councilor (3-year term) and Alternate Councilor (3-year term). Currently these offices are respectively held by Eric Wiechert (Cutter Laboratories), Forrest Getzen (NCSU), Maurice Burse (UNC) and Sally M. Horner (Meredith). Although the membership will have an opportunity to nominate candidates from the floor at the October meeting, the nominating committee is seeking suggestions for candidates. Contact any of the committee members:

Kathy MacLeod (Chairman-EPA)	541-2943
David Yeowell (Burroughs Wellcome)	549-8371
Dick Wells (Duke)	684-2115
Derek Hodgson (UNC-CH)	966-1566
Charles Moreland (NCSU)	737-2998

## SHORT COURSE ON GC/MS

The Section is offering a short course on GC/MS this fall. Details and a registration form are included in this issue of the TarHelium. Non-members may save \$10 by joining the ACS. Membership information may be obtained either from the treasurer or from a representative of the membership committee listed below. Please include a check with registration, since billing cannot be arranged. All proceeds from the short course program support the Section's summer scholarship fund.

## ACS MEMBERSHIP

If you know of colleagues who may be qualified and interested in joining the ACS, please have them contact us for further information and/or applications. New memberships result in an extra contribution from the National Office to our section if sent in through the Section Committee.

Larry Bowen, Chairman	NCSU	(737-2995)
Slayton Evans	UNC-CH	(933-6319)
Thomas Henderson	Burroughs Wellcome	(549-8371)
Robert Izydore	NCCU	(683-6351)
Charles Lochmüller	Duke	(684-2414)
Richard Neeley	Meredith	(833-6461)
Van Wheeler	EPA	(541-2442)



THE PRACTICE OF GC/MS FOR THE NON-EXPERT

DATES: Tuesdays and Thursdays, October 10, 12, 17, 19, 24, 26, 31 & November 2

TIMES: 5:15 to 6:30 p.m.

PLACE: Burroughs Wellcome Auditorium

REGISTRATION

TEXT: None. Handouts will be provided as well as a bibliography

DEADLINE: October 3, 1978  
minimum enrollment - 15

COURSE

DESCRIPTION: An intensive short course in the practice of gc/ms for the non-expert. Lecture material will include topics such as: basic principles of mass spectrometry; practical gas chromatography; instrumentation; capillary column gas chromatography; computer data acquisition and processing; quantitative analysis; derivatization; sample preparation; sample handling and storage.

INSTRUCTORS: J. RONALD BASS is a Research Chemist at NIEHS. He is also an Adjunct Assistant Professor in the Dept. of Environmental Sciences and Engineering, UNC-CH. Dr. Bass received his B.A. degree from Appalachian State and his Ph.D. in Analytical Chemistry at UNC-CH where he studied under Prof. M. M. Bursey and Prof. R. P. Buck. Following study under Prof. K. R. Jennings at the University of Warwick, Coventry, England, he served as Visiting Assistant Professor at NCSU. Research interests include environmental applications of gc/ms, negative chemical ionization mass spectrometry, analytical applications of field free region reactions, and field desorption mass spectrometry. JOAN T. BURSEY (Senior Chemist, RTI) took a Ph.D. in Chemistry from the University of California (Berkeley) in 1969. She studied organic mass spectrometry of saturated heterocyclic amines, synthesizing specifically deuterated compounds to aid interpretation of fragmentation patterns. During two years of post-doctoral training (UNC-CH), she continued work on organic mass spectrometry, emphasizing organic synthesis, interpretation of fragmentation patterns, and ion energetics. She also studied analytical applications of ion cyclotron resonance. At RTI since 1971, Dr. Bursey has worked on gc/ms/computer applications to drug and metabolite analysis and to analysis of components of environmental samples, as well as ms analysis by chemical ionization. E. D. PELLIZZARI (Director for Analytical Sciences, RTI) has an extensive background in theory and application of analytical instrumentation to problems in analytical, environmental, organic, and biomedical areas. He has developed, perfected, and applied techniques for collection and analysis of organic vapors from ambient atmospheres utilizing high resolution capillary gc/ms. He has extensive experience in purification and quantitative measurements of minute quantities of substances and their identification by physical means. Dr. Pellizzari has pioneered high resolution glass capillary technology and has worked extensively on the resolution of complex mixtures.

Enclosed is a check payable to the N. C. Section of the American Chemical Society as registration fee for THE PRACTICE OF GC/MS FOR THE NON-EXPERT. A check must accompany the registration. Non-members may contact the treasurer about joining the Society and receiving the member's discount. If continuing education credit (through Meredith College) is desired check the blank and enclose \$2 extra.

\$ 40 - ACS Member; \$ 50 - non ACS Member

\$ 2 fee for continuing education credits

NAME: \_\_\_\_\_ HIGHEST DEGREE: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

SEND TO: Dr. Forrest W. Getzen, Treasurer, North Carolina Section ACS  
% Department of Chemistry, North Carolina State University  
Raleigh, North Carolina 27650

## AREA SEMINARS

- Sep 1 Dr. W. A. PRYOR, Louisiana State University, "Free Radicals",  
Duke, 3:30 p.m., Room 130 Gross Chemical Laboratory
- 6 Dr. R. G. COOKS, Purdue University, "Direct Analysis of Complex Mixtures  
by Mass Spectrometry", UNC-CH, 11:00 a.m., Room 308 Venable Hall
- 8 Dr. CARLO FLORIANI, University of Pisa, Italy, "To be announced",  
Duke, 3:30 p.m., Room 130 Gross Chemical Laboratory
- 15 Dr. I. O. WALKER, University of Oxford, England, "The Interaction of Core  
Histones with DNA", Duke, 3:30 p.m., Room 130 Gross Chemical Laboratory
- 18 Dr. ROBERT D. BEREMAN, SUNY-Buffalo, "Synthetic Inorganic Chemistry in  
New Dithiolate Systems and in Bioinorganic Chemistry", NCSU, 4:00 p.m.,  
Room 124, Dabney Hall
- 18 Dr. DAVID N. J. WHITE, University of Glasgow, Scotland, "Conformationally  
Mobile Peptides", Duke, 3:30 p.m., Room 130 Gross Chemical Laboratory
- 19 Ms. JANE S. RICHARDSON, Duke University, "The Anatomy and Taxonomy of  
Protein Structure", NCSU, 8:00 p.m., McKimmon Extension Center
- 25 Dr. J. J. ZUCKERMAN, University of Oklahoma, "Colored and Colorless  
Organotin Amines", NCSU, 4:00 p.m., Room 124 Dabney Hall
- 27 Dr. PHILLIP A. SHARP, Massachusetts Institute of Technology, "The Role  
of RNA Splicing in the Synthesis of Adenovirus 2 mRNAs", UNC-CH, 11:00 a.m.  
Room 308 Venable Hall
- Oct 4 Dr. JIRI JONA, University of Illinois, "Experimental Studies of the  
Dynamic Structure of Liquids at High Pressure", UNC-CH, 11:00 a.m.,  
Room 308 Venable Hall
- 5 Dr. A. R. GANGULY, Schering Corporation, "Oligosaccharide Antibiotics",  
Duke, 3:30 p.m., Room 130 Gross Chemical Laboratory
- 6 Dr. LUIGI G. MARZILLI, Johns Hopkins, "Mechanistic and Spectroscopic  
Studies on Cobaloxines", NCSU, 4:00 p.m., Room 124 Dabney Hall

## FUTURE SECTION MEETINGS

- |             |                   |                               |
|-------------|-------------------|-------------------------------|
| October 17  | Peter Griffiths   | Ohio University               |
| November 14 | Arthur Novak      | Louisiana State<br>University |
| December 5  | Bernie Spielvogel | Army Research Office          |

### EXECUTIVE COMMITTEE

Richard Palmer (*Duke*), Chairman  
Eric Wiechert (*Carter*), Chairman-Elect  
Kathryn MacLeod (*EPA*), Secretary  
Forrest Getzen (*NCSU*), Treasurer  
William L. Switzer (*NCSU*), Editor  
Marcus Hobbs (*Duke*), Councilor  
Maurice Bursey (*UNC*), Councilor  
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Maurice Bursey (*UNC*), Past Chairman

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