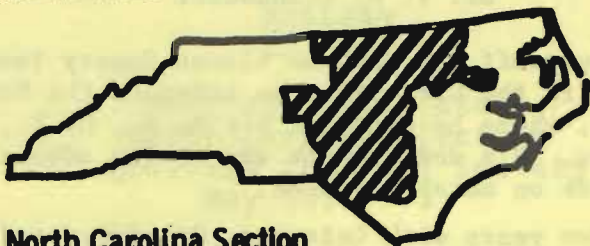


ACTIVITIES



North Carolina Section American Chemical Society

Vol. III, No. 8

Raleigh, N. C.

May, 1973

MEETING IN MINIATURE

Thirty-four papers will be presented at the annual Meeting-in-Miniature of the North Carolina Section.

PLACE: North Carolina State University
Cox and Dabney Halls
Program is inside.

TIME: Friday, May 18, 1973
Papers begin 1:15 p.m.
Refreshments served 4:00 p.m.
Plenary session: begins 4:30 p.m.

SPEAKER: Dr. T. H. Grindstaff will speak at the plenary session on "Holography"

SOCIAL HOUR: 5:45 p.m. North Carolina State University
Faculty Club

DINNER: 6:30 p.m. North Carolina State University
Faculty Club.

Dr. T. H. Grindstaff

Dr. Grindstaff was born in Blount County Tennessee. After a tour in the U.S. Navy, he attended the University of Tennessee, where he obtained his B. S., M. S., and Ph.D. degrees. His doctor work was on the adsorption of fatty acids on metal surfaces.

After two years with Celanese, Dr. Grindstaff joined Du Pont. He is presently senior research chemist at the Dacron research laboratory at Kinston, N. C.

Abstract of Talk

The development of Holography is traced from its discovery by Gabor in 1947 to the present multicolor Holograms. The principles of Holography are explained diagrammatically without resorting to mathematics. The problems encountered in making holograms are described. Present and potential applications of Holographic techniques in Research, Industry, and Medicine are discussed. A Hologram is offered for viewing. This talk is intended to stimulate an interest in the science of producing highly realistic images of three-dimensional objects. Neither prior knowledge of Holography nor an extensive background in optics is required to understand any of the material.

N. C. Section Award

The finalists for the North Carolina Section Award to outstanding high school chemistry students are.

Keith A. Wilson, Charles Jordan H.S., Durham
William Scott, Durham H.S.
Robert Davis, Hillside H.S., Durham
William Curtis Small, Durham H.S.
Ann Strudwick Berry, St. Mary's College, Raleigh

The winner will be recognized at the Meeting-in-Minature and his or her school will receive a \$200 award from the section for use in its science program.

PROGRAM

Meeting-in-miniature
North Carolina Section
American Chemical Society
May 18, 1973

Held on the campus of the
North Carolina State University at Raleigh

Session 1: Physical, Analytical and Biochemistry

Chairman: Professor Kenneth W. Hanck, NCSU,
Raleigh

Location: Room 220 Dabney Hall

- 1:15 Micromolar EDTA Titrations, Jim Dillard and
Dr. K. W. Hanck
- 1:30 Electrochemical Reduction of K_2CrO_4 in Molten
 $ZnCl_2$ -K Cl Eutectic, Lynn Deanhardt and Dr.
K. W. Hanck
- 1:45 Applications of INDO Molecular Orbital Theory
to Rearrangement Problems in Mass Spectrom-
etry. Formation of Phenol from Phenyl Ethyl
Ether and Phenyl Acetate, Carol E. Parker,
J. Ronald Hass, Dr. Maurice M. Bursey, and
Lee G. Pedersen
- 2:00 Some Applications of Trace Analysis to
Environmental Samples, Robert E. Lee, Jr.
- 2:15 Sampling Bias of a Cascade Impactor, Jack L.
Durham and Thomas G. Ellestad.
- 3:00 Radiolysis of 1,1-Difluoroethane, Van K. Lau
and Dr. Halbert Carmichael.
- 3:15 Study of Fission Product Profiles in Pyro-
lytic Carbon Using a Plasma Oxidation
Technique, R. A. Copeland and Prof. L. R.
Zumwalt
- 3:30 A Study of the Diffusion of Barium in Alpha-
Thorium, C. M. Craft and Prof. L. R. Zumwalt

- 3:45 Denaturation of an External Protein of the Erythrocyte upon Storage of Blood, Michael J. Conrad and John T. Penniston
- 4:00 Transition State Charge Distribution in Reactions of Acylchymotrypsin, Barry Zeeberg and Michael Caplow

Session 2: Inorganic

Chairman: Professor Phillip E. Rakita, UNC,
Chapel Hill

Location: Room 206 Cox Hall

- 1:15 Reactions of Cyclooctatetrene Dianion with Halosilanes, M. N. Andrews and P. E. Rakita
- 1:30 Ciazonium Complexes of Transition Metal, W. L. Bowden, W. F. Little and T. J. Meyer
- 1:45 Oxidation State Properties of Ligand Bridged Complexes of Ruthenium, R. W. Callahan, T. J. Meyer
- 2:00 The Field Dependent Magnetic Susceptibilities of Diethylenetriammonium Chlorocuprate (II), $[(\text{NH}_3\text{CH}_2\text{CH}_2)_2][\text{CuCl}_4]\text{Cl}$, D. Bruce Losee and William E. Hatfield
- 2:15 Magnetic Susceptibility Measurements on A Single Crystal of Trisethylenediamine-cobalt(III) di- μ -chlorobis(trichlorocuprate (II)) Dichloride Dihydrate, $[\text{Co}(\text{N}_2\text{C}_2\text{H}_8)_3][\text{Cu}_2\text{Cl}_8]\text{Cl}_2 \cdot 2\text{H}_2\text{O}$, Kenneth T. McGregor and William E. Hatfield
- 2:30 Isomerization Reactions of Substituted Indenyl Silanes, G. A. Taylor and P. E. Rakita
- 3:00 Vibronic Fine Structure in $[\text{Ni}^{\text{II}}(\text{NH}_3)_6] \text{X}_2$, D. H. Hamm and A. F. Schreiner
- 3:15 Isolation and Characterization of A Mono-protonated Cobaloxime, Paul L. Gaus, J. Thomas Bowman, Alvin L. Crumbliss, and Andrew T. McPhail

- 3:45 Mössbauer Spectra of Some Transition Metal Antimonates, Jan Wooten, G. G. Long and L. H. Bowen
- 3:30 Metalloporphyrin Redox Chemistry. The Effect of Extraplanar Ligands on the Site of Oxidation in Ruthenium Porphyrins, Gilbert M. Brown, Frederick R. Hopf, John A. Ferguson, Thomas J. Meyer, and David G. Whitten

Session 3: Organic

Chairman: Professor Leon D. Freedman, NCSU, Raleigh

Location: 214 Cox Hall

- 1:15 Crystal and Molecular Structures of Biadamantane Derivatives, R. L. Greene, J. Bordner and G. H. Wahl, Jr.
- 1:25 On the Steric Requirements of the Adamantyl Group, K-C. H. Chen and G. H. Wahl, Jr.
- 1:35 On the Importance of the Steric Isotope Effect on Lanthanide Induced Nmr Shifts, C. J. Merz and G. H. Wahl, Jr.
- 1:50 Conformational Analysis of Eight-membered-ring Bridged Biphenyls, J. D. Gunter and G. H. Wahl, Jr.
- 2:00 Synthesis and Rearrangement of Bridged Biphenyls, K. J. Wildonger and G. H. Wahl, Jr.
- 2:10 Luminescence Quantum Yields of Bridged Biphenyls, R. B. Bonner, M. K. DeArmond and G. H. Wahl, Jr.
- 2:25 Stereospecific Protonation in the Biosynthesis of Mesembrine, David B. Johnson and P. W. Jeffs
- 2:40 Intramolecular Fluorine Exchange in Diphenyl- and Dimethyltrifluorophosphorane, Charles G. Moreland, G. O. Doak and Lory B. Littlefield

- 3:00 Progress in the synthesis of gelsemicine, Dr. Steven W. Baldwin and Ronald J. Doll
- 3:15 Uses of Defocussed Metastables, Doris Rouse and David Brent.
- 3:25 Organic Synthesis; A Unique Photo-Annellation Procedure, S. W. Baldwin, R. E. Gawley, and R. J. Doll
- 3:40 Studies Directed Towards the Total Synthesis Of the Tetracyclic Sesquiterpene, Cyclo-sativene, Dr. Steven W. Baldwin and John C. Tomesch
- 3:55 Electrophilic Substitution in the Dicyclopentadiene System: A Re-investigation, Jan M. Shepherd, G. Wayne Wright, Archie R. Portis, Jr., and Pelham Wilder, Jr.
- 4:10 Carbon-13 NMR Spectra of Some Phosphorane Oxides and Sulfides, Shin O. Lee and Louis D. Quin

The plenary lecture will be held at 4:30

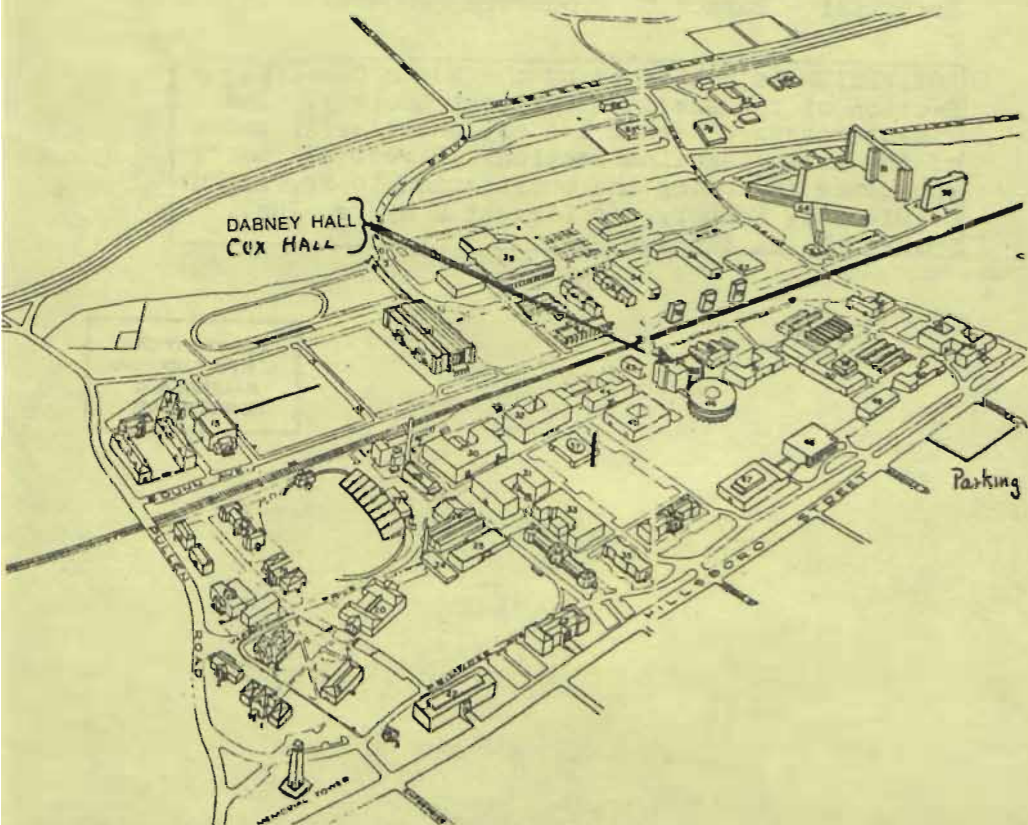
FIFTY YEAR MEMBERS

Three members of the section will receive pins and certificates recognizing their fifty years' membership in the American Chemical Society.

Mr. Warren A. Cook was professor of industrial health at the University of Michigan. He moved to Chapel Hill on retirement and is now an adjunct member of the School of Public Health.

Professor H. D. Crockford received his B.S. from North Carolina College in 1920. He then went to the University of North Carolina where he has been as graduate student, instructor, assistant professor, associate professor and professor ever since, except for a stint in the Navy during World War II.

Mr. H. Clay Howell graduated from Cornell University. He spent most of his career working with asphalt cominers and processors in New Jersey or Trinidad. He came to Raleigh with a consultant firm and has since retired.



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AMERICAN CHEMICAL SOCIETY

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ACTIVITIES is published by the North Carolina Section of the American Chemical Society. The views expressed herein are not necessarily those of the North Carolina Section. Direct all correspondence regarding the publication to Mr. Arthur C. Diesing, Editor, c/o Liggett & Myers, Inc., Durham, N. C. 27702.

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