

1963

## 47th Annual Meeting, 1963. Program

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## PROGRAM

Friday, April 5

- 9:00 a.m. to  
4:00 p.m. Registration, Trieschmann Fine Arts Building.
- 10:45 a.m. Business Meeting, Reves Recital Hall
- 12:00 Noon Lunch
- 1:00 p.m. to  
2:00 p.m. General Session with Junior and Collegiate Academies. Staples Auditorium. Papers by Science Talent Search Winners.
- 2:15 p.m. to  
4:45 p.m. Collegiate Academy, Trieschmann Fine Arts Building.
- 6:00 p.m. Academy Banquet, Town House Restaurant. Address by Dr. Matt L. Ellis.  
Collegiate Academy Banquet, Sands Restaurant.  
Address by Dr. A. E. Sidwell.
- 6:30 p.m. Science Fair Awards Banquet, Hulen Hall.
- 7:00 p.m. to  
10:00 p.m. Science Fair Exhibits, Grove Gymnasium.

Saturday, April 6

- 8:30 a.m. to  
10:15 a.m. Science Education Section, Staples Auditorium
- 10:30 a.m. to  
11:45 a.m. Section Meetings
- 12:00 Noon Lunch
- 1:30 p.m. to  
2:30 p.m. Business Meeting, Reves Recital Hall.
- 2:30 p.m. to  
4:00 p.m. Section Meetings

## SECTIONAL PROGRAM

**Biology and Agriculture**  
Chairman: J. W. Sears  
Harding College

THE DEVELOPMENT OF PLEUROTUS ULMARIUS FR. GROWN IN PURE CULTURE. Delbert Swartz and Jerry D. Collar, University of Arkansas.

FURTHER STUDIES ON AN ANTIBIOTIC SUBSTANCE PRODUCED BY RHIZOPUS NIGRICANS EHRENBERG. Kenneth D. Mace and Delbert Swartz, University of Arkansas.

NOTES ON THE NATURAL HABITAT OF THE

BROWN RECLUSE. Maxine Hite, University of Arkansas.

- THE PROBLEM OF HYBRIDIZATION OF THE RED CAVE SALAMANDER AND THE LONG-TAILED SALAMANDER. Charles C. Smith, Arkansas College.
- THE ABSENCE OF PASTEURELLA PESTIS IN THE WILDLIFE OF ARKANSAS. R. Reece Corey, Leo J. Paulissen, and Delbert Swartz, University of Arkansas.
- COMPARISON OF SPIDER FAUNA IN THE GROUND STRATA OF A PASTURE AND ADJACENT CULTIVATED FIELD. W. H. Whitcomb, H. Exline, and M. Hite, University of Arkansas, University of Missouri, and University of Arkansas, respectively.

### Chemistry

Chairman: Daniel Mathews  
Graduate Institute of Technology  
University of Arkansas

- INCORPORATION OF THYMIDINE INTO DNA DURING VITAMIN E DEFICIENCY OF RABBITS. Michael Warrick, University of Arkansas Medical Center.
- THE DETERMINATION OF THE STABILITY CONSTANTS FOR THE BENZENE-SILVER ION COMPLEXES BY N.M.R. SPECTROSCOPY. William Trigg, Arkansas Polytechnic College.
- MEASUREMENT AND USE OF SUBSTRATE AND PARTITION LIQUID SELECTIVITIES IN GAS CHROMATOGRAPHY. Junion Johnson, Graduate Institute of Technology, University of Arkansas.
- GAS CHROMATOGRAPHIC SEPARATIONS OF AMINO ACID DERIVATIVES. Earl Riddick, Graduate Institute of Technology, University of Arkansas.
- A DEVICE FOR MEASURING RESONANT ABSORPTION BY NUCLEI. Luther Harris, Graduate Institute of Technology, University of Arkansas.
- MEASUREMENT OF THE SURFACE AREA OF SOLIDS (A PHYSICAL CHEMISTRY EXPERIMENT?) Buster Slaten, Graduate Institute of Technology, University of Arkansas.
- THE GLASS ELECTRODE AND ITS USE IN DETERMINATION OF IONIZATION CONSTANTS OF ACIDS. James Carder, Graduate Institute of Technology, University of Arkansas.
- A STUDY OF HYDROGEN BONDING IN THE CHLOROACETIC ACIDS. Daniel Mathews, Graduate Institute of Technology, University of Arkansas.

### Geology

Chairman: John J. Chapman  
Southern State College

- BOULDERS OF CHERT DERIVED FROM BEDS OF PROBABLE MIDWAY NEAR MALVERN. Richard V. Browne, Arkansas Geological Commission.
- GEOLOGY ALONG A PORTION OF HIGHWAY 23, MADISON COUNTY, ARKANSAS. J. A. McEntire, III, Arkansas Geological Commission.
- HYPOGENE CLAY AND MICA MINERALS ASSOCIATED WITH FAULT ZONES IN THE OUACHITA MOUNTAINS-ARKOMA BASIN AREA, ARKANSAS. C. G. Stone, Arkansas Geological Commission.
- SUBSIDENCE STRUCTURES IN NORTHWEST ARKANSAS. James H. Quinn, University of Arkansas.
- ORE DEPOSIT GEOLOGY OF THE OUACHITA MOUNTAINS OF ARKANSAS, A REVIEW. Drew Holbrook and N. F. Williams, Arkansas Geological Commission.
- RELATIONSHIP OF IGNEOUS ACTIVITY TO MINERAL DEPOSITS IN ARKANSAS. C. G. Stone and P. J. Sterling, Arkansas Geological Commission.
- A PROPOSED HIGH SCHOOL EARTH SCIENCE SYLLABUS. John J. Chapman, Southern State College.

### History and Political Science

Chairman: Keith Petersen  
University of Arkansas

- THE AMERICAN NEGRO IN 1901. Kenneth R. Walker, Arkansas Polytechnic College.
- STATE RIGHTS AND THE FEDERAL POLICE POWER. Richard E. Yates, Hendrix College.
- THE NORTH AMERICAN LAND AND TIMBER CO., LTD.—SOME NOTES ON ITS BEGINNINGS. Wayne Delavan, Henderson State Teachers College.
- ECONOMIC CONTRADICTIONS IN THE PROCESS OF WESTERN EUROPEAN INTEGRATION. Marian L. Piotrowski, Henderson State Teachers College.

### Mathematics

Chairman: Glen Haddock  
Arkansas College

- GAME THEORY, Moorene Newton, Arkansas College.
- ALGEBRAIC AND TRANSCENDENTAL NUMBERS. Roy Fuller, University of Arkansas.

EXPONENTIAL MEAN. Marion Brashears, University of Arkansas.

DUALITY. John W. Keesee, University of Arkansas.

### Physics

Chairman: Earl R. Williams  
 John Brown University

ATOMIC AND MOLECULAR DISTRIBUTION IN  $CCl_4$ .  
 Glen T. Clayton and R. W. Gruebe, University of Arkansas.

X-RAY DIFFRACTION OF LIQUID  $CCl_2F_2$ . Glen T. Clayton and R. E. Graham, University of Arkansas.

PLASMA EXPANSION INTO A VACUUM. Tom Padgett, University of Arkansas.

PROPOSED DEFRACTION OF IONS. Charles Manka, University of Arkansas.

SPECTRA INDUCED BY MOLECULAR HYDROGEN ION IMPACT ON MOLECULAR HYDROGEN. Lynn Hatfield, University of Arkansas.

A MOSSBAUER STUDY OF  $Kr^{83}$ . R. Smith, Arkansas Polytechnic College.

SOLID STATE DIFFUSION OF SILVER INTO GLASS. J. Scott, Arkansas Polytechnic College.

NUCLEAR QUADRAPOLE IN RESONANCE IN HNX. Jack G. Dodd, Arkansas Polytechnic College.

### Science Education

Chairman: Howard Moore  
 Arkansas State College

A STUDY OF THE ACHIEVEMENT IN ADVANCED CHEMISTRY COURSES OF A GROUP OF STUDENTS SELECTED FOR GENERAL CHEMISTRY HONORS COURSE.

Wilson J. Broach and Billie G. Broach, Little Rock University.

UTILIZATION OF PRIMARY CHEMICAL LITERATURE SOURCES IN THE UNDERGRADUATE CURRICULUM. Don England, Harding College.

THE UNIVERSITY OF ARKANSAS PHYSICS HONORS PROGRAM. Glen T. Clayton, University of Arkansas.

A THREE SEMESTER HONORS COURSE IN PHYSICS. Paul Sharrah, University of Arkansas.

THE PINE BLUFF HIGH SCHOOL FIELD LABORATORY. Robert T. Kirkwood, Pine Bluff High School, Pine Bluff, Arkansas.

THE INSTITUTIONAL MUSEUM AS A TEACHING AND EDUCATIONAL UNIT. E. B. Wittlake, Arkansas State College.

THE HENDRIX COLLEGE HONORS PROGRAM. Arthur A. Johnson, Hendrix College.

REPORT OF THE VISITING SCIENTIST PROGRAM. John W. Keesee, University of Arkansas.

THE UNIVERSITY OF ARKANSAS HONORS PROGRAM IN BIOLOGY. Lowell F. Bailey, University of Arkansas.