

1961

## 45th Annual Meeting, 1961. Program

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**ARKANSAS ACADEMY OF SCIENCE**

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**PROGRAM**

**Friday, April 14**

- 9:00 a.m. to  
2:30 p.m. Registration, Foyer of Chemistry Building.
- 10:45 a.m. Business Meeting, Auditorium in Business Administration Building.
- 12:00 Noon Luncheon, Brough Commons, for Collegiate and Senior Academy delegates.
- 1:15 p.m. Science Education Section, Chemistry Building.  
"Science Education Programs in Progress in Arkansas," Lowell F. Bailey, University of Arkansas, in charge of program.
- 2:30 p.m. to  
4:30 p.m. Section Meetings.
- 4:30 p.m. Arkansas Science Teachers Association Meeting, Physics Building.
- 5:30 p.m. Banquet, Uark Bowl.
- 6:30 p.m. to  
7:30 p.m. Science Fair Awards, Uark Bowl.
- 8:00 p.m. Address, Business Administration Auditorium,  
"On the Superior Galactic Communities,"  
Dr. Paul Kuroda, University of Arkansas.
- 7:00 p.m. to  
10:00 p.m. Science Fair Exhibit, Men's Gymnasium.

**Saturday, April 15**

- 8:45 a.m. Business Meeting, Auditorium in Business Administration Building. Treasurer's report and reports of standing committees and special committees. Election of officers. Location of next year's meeting. New Business. Installation of Officers.
- 10:00 a.m. General Session with the Junior and Collegiate Academies, Business Administration Auditorium. Papers by Science Talent Search Winners. L. J. Paulissen, Director of State Science Talent Search, in charge.

**SECTIONAL PROGRAM**

**Biology and Agriculture**

**Chairman: R. K. Strawn**  
**University of Arkansas**

- EFFECTS OF TEMPERATURE AND DISSOLVED SOLIDS ON THE SURVIVAL OF BRINE SHRIMP NAUPLII. Merle Bull, University of Arkansas.
- A REVISED CATALOG OF THE GRASSES OF ARKANSAS. Dwight Moore, Arkansas A. and M. College.
- PROGRESS REPORT ON THE STUDIES OF INTERGRADATION OF SUBSPECIES OF EURYCEA LONGICAUDA. Charles C. Smith, Arkansas College.
- THE OCCURRENCE OF A GROWTH INHIBITOR IN DORMANT BUDS OF WOODY SPECIES. Billy W. Bagley, University of Arkansas.
- THE ISOLATION OF GROWTH INHIBITORS FROM DORMANT MAPLE BUDS. Forrest Lane, University of Arkansas.
- SOME ECOLOGICAL ASPECTS OF AN ARKANSAS STREAM WITH REFERENCE TO TROUT PRODUCTION. Robert R. Van Kirk, University of Arkansas.
- AN AGED BOX TURTLE IN ARKANSAS. Douglas James, University of Arkansas.
- THE FLUORESCENT ANTIBODY TECHNIQUE - A NEW CLINICAL TOOL IN DIAGNOSTIC MICROBIOLOGY. David A. Beeker, University of Arkansas.
- ACCUMULATION OF RARE EARTH ELEMENTS BY MICROORGANISMS. G. T. Johnson, University of Arkansas.

**Chemistry**

**Chairman: L. Howick**  
**University of Arkansas**

**Division A. Moderator: L. Howick**

- THE UNDERGRADUATE CURRICULUM AT THE UNIVERSITY OF ARKANSAS. L. Howick, University of Arkansas.
- CURRICULUM PROBLEMS IN THE DEVELOPMENT OF A FOUR-YEAR PROGRAM IN CHEMISTRY. Wilson J. Broach and Billie G. Broach, Little Rock University.

- THE NSF UNDERGRADUATE RESEARCH PARTICIPATION PROGRAM IN CHEMISTRY AT THE UNIVERSITY OF ARKANSAS. Arthur Fry, University of Arkansas.
- THE USE OF SEMINAR AT ARKANSAS STATE COLLEGE. Howard Moore, Arkansas State.
- THE PURPOSE, GOALS, AND ACHIEVEMENTS OF THE GRADUATE INSTITUTE OF TECHNOLOGY. D. M. Mathews, Graduate Institute of Technology.
- S<sub>4</sub>N<sub>4</sub> AND S<sub>4</sub>N<sub>3</sub> Br STRUCTURES. Ronald R. Goforth, University of Arkansas.
- THE INFRA-RED SPECTRA OF SOME CHEMISORBED MOLECULES. Laurence Neff, University of Arkansas.

Division B. Moderator: A. W. Cordes

- A METHOD FOR DETERMINING POSSIBLE SOLVATION NUMBERS IN MIXED SOLVENTS. James O. Wear, University of Arkansas.
- DIELECTRIC CONSTANTS IN POLAR SOLVENTS. Boyce Helms, University of Arkansas.
- THE KINETICS OF THE SOLVOLYSIS OF SUCROSE. D. M. Mathews and Charles Reed, Graduate Institute of Technology.
- THE EFFECT OF THE BINDING OF CU(II) AND CO(II) IONS ON BOVINE PLASMA ALBUMIN AT LOW pH. Wilbur W. Everett, Gerontology Branch, National Heart Institute PHS., D. H. E. and W., Bethesda, and Baltimore City Hospitals, Baltimore, Maryland, and Ouachita Baptist College.
- THE AMIANTHIUM ALKALOIDS, PART I. ACIDS FROM HYDROLYSIS OF ALKALOID E. Don England, University of Arkansas and Harding College.
- SUBSTRATE SPECIFICITY OF DIHYDROXY ACID DEHYDRASE IN VALINE BIOSYNTHESIS. James W. Blankenship and Robert L. Wixom, University of Arkansas Medical Center.
- SYNTHESIS OF ADENINE IN ALLOXAN DIABETES. Waldean G. Rapp, University of Arkansas.

Division C. Moderator: D. G. Gardner

- 14 - MEV NEUTRON INDUCED FISSION OF U<sup>238</sup>. Knox M. Broom, University of Arkansas.
- HIGH-ENERGY ELECTRON BOMBARDMENT OF CYCLOPROPANE IN THE PRESENCE OF RARE GAS SENSITIZED H ATOMS. F. W. Lampe and C. Fred Smith, University of Arkansas.
- REMARKS ON LIQUID SCINTILLATION COUNTING SYSTEM. R. J. Douthart, W. Lohman, and W. Broach, Little Rock University.

- ON THE AGE OF THE SOLAR SYSTEM. O. K. Manuel, University of Arkansas.
- FALLOUT FROM NUCLEAR DETONATIONS OF FEBRUARY AND APRIL 1960. Howard L. Hodges, University of Arkansas.
- NATURAL AND ATMOSPHERIC OCCURRENCE OF RADIOCERIUM. M. P. Menon, University of Arkansas.
- EQUILIBRIUM RELATIONSHIPS BETWEEN RADON AND ITS DECAY PRODUCTS. John L. Meason, University of Arkansas.

### Geology

Chairman: James H. Quinn  
University of Arkansas

- SOME ASPECTS OF GEOLOGY AS A SERVICE TO THE PUBLIC. Robert J. Willard, University of Arkansas.
- LATE PALEOZOIC AMMONOIDS OF THE AMERICAN MID-CONTINENT REGION. Mackenzie Gordon, Jr., U. S. Geologic Survey.
- SOME SPECIAL PALEONTOLOGIC PROBLEMS IN THE PENNSYLVANIA ROCKS OF NORTHWEST ARKANSAS. Lloyd G. Henbest, U. S. Geologic Survey.
- GEOLOGIC SECTION OF BRADLEY? CALHOUN? OUACHITA, AND PART OF NEVADA COUNTIES, ARKANSAS. D. R. Albin, Groundwater Branch, U. S. Geologic Survey.

### History and Political Science

Chairman: Keith Peterson  
University of Arkansas

- MISSOURI: A SOUTHERN OR A MIDWESTERN STATE? Kenneth R. Walker, Arkansas Polytechnic College.
- STATE PARTY ACTIVITY IN A TWO-PARTY ENVIRONMENT: THE DEMOCRATIC PARTY OF INDIANA. George C. Roberts, University of Arkansas.
- AN APPLICATION OF THE THEORY OF SOCIAL MOBILIZATION TO ARKANSAS. Gene E. Rainey, Harding College.

### Mathematics Section

Chairman: Charles Pitner  
Harding College

- LECTURE ON COMPUTER PROBLEMS FOLLOWED BY A DEMONSTRATION AT THE COMPUTER CENTER. James Scroggs, University of Arkansas.

Physics

Chairman: M. L. Lawson  
Harding College

RESTRICTED DIFFUSION OF MACROMOLECULES THROUGH AGAR GELS. Gary Akers, Harding College.

MEASUREMENT OF ATOMIC LIFETIMES. William R. Pendleton, University of Arkansas.

POLARIZATION OF OPTICAL RADIATION INDUCED BY ELECTRON IMPACT (Part I). Lawrence D. Weaver, University of Arkansas.

POLARIZATION OF OPTICAL RADIATION INDUCED BY ELECTRON IMPACT (Part II). Richard B. Kay, University of Arkansas.

SOME OPTICAL PROPERTIES OF IRRADIATED LUCITE. A. Poularikas, University of Arkansas.

Science Education

Chairman: Lowell F. Bailey  
University of Arkansas

REPORTS FROM COMMITTEES INVOLVED IN CURRICULUM STUDY.