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ARKANSAS ACADEMY OF SCIENCE
THIRTY-SIXTH ANNUAL MEETING
Arkansas State College, Jonesboro
April 25-26, 1952

FRIDAY MORNING, APRIL 25
10:00 Registration
11:15 Meeting Called to Order. Welcome by the President of the Arkansas Academy of Science.

FRIDAY NOON, APRIL 25
12:45 Luncheon
1:15 Address: Dr. Carl Reng, President, Arkansas State College.

FRIDAY AFTERNOON, APRIL 25
2:00 Sectional Meetings. Biology, Chemistry, Mathematics, Physics, Science Education, Psychology, Geology, History, Sociology.

FRIDAY EVENING, APRIL 25
6:00 Dinner
7:00 Address: "Operation Infinity," Russell S. Poor, National Science Foundation, Washington, D. C.

SATURDAY MORNING, APRIL 26
9:30 Selected Papers from Science Talent Search and Arkansas Junior Academy of Science; Supervised by J. A. Doughty, University of Arkansas, and Miss Ruth Armstrong, Ft. Smith Junior High School.
12:00 Official Adjournment
12:15 Informal Luncheon

SATURDAY AFTERNOON, APRIL 26
1:30 Botany Field Trip. Arranged by Dr. Delzie Demaree and Dr. D. M. Moore.

SECTIONAL PROGRAM
BIOLOGY SECTION
Chairman: W. C. Munn, Southern State College

B-1-1 The Comparative Amount of Chlorophylls and Other Pigments in Plants Grown with Various Mineral Deficiencies, Jean Rosser Williams, Arkansas State College.
B-4-4 Rediscovery of the Bigleaf Magnolia in Arkansas, D. M. Moore, University of Arkansas.
B-5-5 Heterosis in Maize Embryos, R. S. Fairchild, University of Arkansas.
B-6-6 Prairie Vegetation in Northwest Arkansas, E. S. Ruby, University of Arkansas.
B-7-7 Hyaluronidase in Tissues of Normal and Tumor Experimental Animals, Louis R. Fina, University of Arkansas.
B-8-8 Interference Between St. Louis Encephalitis Virus and Western Equine Encephalomyelitis Virus Along a Neuronal Pathway, Carl E. Duffy and Harry M. Meyer, Jr., University of Arkansas, School of Medicine. (By Title)
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B-9-9 Length of Gestation Period in Dairy Cattle, James L. Cason, University of Arkansas.

B-10-10 The Nutritive Value of Certain Lespedeza Hays for Wintering Dairy Heifers, E. D. Moore, L. Ratcliff, and J. L. Cason, University of Arkansas.


B-12-12 Effectiveness of Implanted Bacitracin on the Growth of Suckling Pigs, D. L. Tucker, P. R. Noland, and E. L. Stephenson, University of Arkansas.

B-13-13 On New Species and New Distribution Records of Millipeds, Nell B. Causey, University of Arkansas. (By Title)

B-U-15 Effects of Certain Cotton Insecticides on the Mourning Dove (Zenaidura macroura), Howard Young, Andrew Hulsey, and Robert Moe, University of Arkansas. (By Title)

CHEMISTRY SECTION
Chairman: Morton Dworshak, College of the Ozarks

C-1-19 Pharmaceutical Chemistry, R. O. Bachmann, University of Arkansas.

C-2-20 Some Derivatives of Styrene, William K. Noyce, University of Arkansas.

C-3-21 Application of Glass Blowing to Scientific Research, W. J. Wheeler, University of Arkansas.

C-4-22 How to Prepare Copy for the Illustrator, J. R. Gray, University of Arkansas. (By Title)

C-5-23 Abnormal Surface Energies Exhibited by Atomized Sodium Chloride, E. D. Jones, D. S. Burgess, E. S. Amis, University of Arkansas.

C-6-24 Review Paper on Some Aspects of High Intensity X-Ray Irradiation, M. D. Peterson, P. K. Wang, M. Dworshak, et al., College of the Ozarks. (By Title)

C-7-25 Ceramic Uses of Arkansas Nepheline Syenite, Harry Reynolds, University of Arkansas.

C-8-26 Chicken Feathers as the Basis of a New Arkansas Industry, Art W. McCloy, University of Arkansas.


C-10-28 Simultaneous Spectrophotometric Determination of Iron (III) and Iron (II) with Orthophenanthroline, John A. Smart and Aubrey E. Harvey, University of Arkansas.

C-11-29 Undergraduate Inorganic Chemistry, Robert W. Rowden, University of Arkansas.

GEOLOGY SECTION
Chairman: N. F. Williams, Arkansas Resources and Development Commission


G-2-31 Geologic Problems in the Arkansas Coal Basin, Norman J. Payne, University of Arkansas. (By Title)

G-3-32 Geology of Eastern Logan County, Fred H. Downs, University of Arkansas. (By Title)

G-4-33 Insoluble Residues of the Kessler Limestone, Jack D. Mussett, University of Arkansas. (By Title)

G-5-34 Recently-recognized Details of Geologic Structure at Hot Springs, Arkansas, Robert H. Arndt and Raymond B. Stroud, University of Arkansas.
Surface Radioactivity in the Granite Mountain Area, Pulaski County, Arkansas, Eugene L. Jones, University of Arkansas. (By Title)

Distribution of Radioactivity in Uranium-bearing Rocks from Pottah Sulphur Springs, Garland County, James W. Baxter, University of Arkansas.

Geologic History of the Michigan Structural Basin, George V. Cohee, University of Arkansas. (By Title)

HISTORY AND POLITICAL SCIENCES SECTION

Chairman: Georg G. Iggers, Philander Smith College

"Automatic" Reappointment for the Arkansas General Assembly, Franklin M. Bridge, University of Arkansas.

The Threat and the Promise of Power Politics, Ralph G. Jones, University of Arkansas.


The Decline of the Florentine Republic from the Invasion of Henry VII to the Dictatorship of Walter of Brienne, Marvin Becker, University of Arkansas.

MATHEMATICS SECTION

Chairman: J. R. Abernathy, Arkansas Polytechnic College

Application of Mathematics to Chemical Engineering, C. W. Oxford, University of Arkansas. (By Title)

Review of Mathematical Techniques Applied to Closed Loop Control, N. H. Barnette, University of Arkansas. (By Title)

Modern Computing Machines and Some of Their Implications, Harold Shniad, University of Arkansas. (By Title)

Error Considerations in Mechanical Integration, Stacy Hull, Oak Ridge, Tennessee. (By Title)

PHYSICS SECTION

Chairman: M. L. Lawson, Arkansas State College

Interferometric Determination of the Magnetostriction Constant of Bar-shaped Samples, Z. V. Harvalik, University of Arkansas.

A Low Thermal Capacity Thermocouple By Evaporation Methods, R. W. Raible and R. M. Pierson, University of Arkansas.

Diffusion Cloud Chamber, B. J. Good, University of Arkansas.

Alpha Ray Spectrometer for Determination of Radioactive Gases, P. E. Damon and H. I. Hyde, University of Arkansas.

Apparatus For Measurement of Atmospheric Attenuation of Light, John E. Lyon and R. D. Woosley, University of Arkansas.

A Simple Laboratory Thermoelectric Pyrometer, R. M. Pierson and B. S. Garrett, University of Arkansas.


Artificial Reverberation Generator, C. C. Allen and J. P. Decker, University of Arkansas.

PSYCHOLOGY SECTION

Chairman: Henry W. Sagesar, College of the Ozarks

Alternation of Response as a Function of Work, Merrell E. Thompson, University of Arkansas. (By Title)

Reaction Time as a Function of Energy and Luminosity of a Visual Stimulus, Emir H. Shuford, University of Arkansas. (By Title)

The Zeigarnik Phenomenon with Groups, Frank P. Gatling, University of Arkansas. (By Title)

Eye Preference and Color Preference and Their Effect on Color Band Location and Width, Z. V. Harvalik, University of Arkansas. (By Title)
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SCIENCE EDUCATION SECTION
Chairman: Miss Marie Easterwood, Arkansas State College

SE-1-58 The Use of MKS Units in Elementary Physics Instruction, L. B. Ham, University of Arkansas.

SE-2-59 What Is the Role of Biology in Modern Education? Joseph F. Marics, University of Arkansas.

SE-3-60 Report on the Pilot Course "Pattern of the Physical Sciences," Z. V. Harvalik, University of Arkansas.

SE-4-61 Arithmetic for the Scientist and for the "Common Man," or Death and Transfiguration of Grocery-store Arithmetic, B. H. Gundlach, University of Arkansas.

SOCIOLOGY SECTION
Chairman: M. J. Daniels, Arkansas Polytechnic College


S-3-64 Some Anthropological Evidence Regarding the Possibility of Greater Social Control in the Economy of the Future, Paul F. Tjensvold, Arkansas Polytechnic College.

S-4-65 A Comparative Analysis of the Contributions of Emil Durkheim and his Contemporaries to Social Theory, J. E. Blackwell, Shorter College.

S-5-66 The Social Standing of 100 Occupations Evaluated by Southern State College Students, Norman F. Washburne, Southern State College.