1968

52nd Annual Meeting, 1968. Program

Academy Editors

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PROGRAM

ARKANSAS ACADEMY OF SCIENCE
Fifty-Second Annual Meeting
Ouachita Baptist University and Henderson State College
Arkadelphia, Arkansas
Friday, April 5
Ouachita Baptist University

9:00 a.m. to 4:00 p.m. REGISTRATION — Senior and Collegiate Academy
9:00 a.m. to 12:00 noon REGISTRATION — Junior Academy
9:15 a.m. to 10:00 a.m. COLLEGIATE ACADEMY — Executive Committee Meeting
9:30 a.m. to 10:50 a.m. SENIOR ACADEMY — Executive Committee Meeting
10:00 a.m. to 10:50 a.m. COLLEGIATE ACADEMY AND JUNIOR ACADEMY — Address: "The Effect of Engineering Development on River Systems" — Dr. Joe Nix, Chemistry Department, Ouachita Baptist University
10:45 a.m. to 11:00 a.m. SENIOR ACADEMY — Business Meeting
11:00 a.m. to 11:45 a.m. JUNIOR ACADEMY — Mixer
11:45 a.m. to 1:00 p.m. COLLEGIATE ACADEMY — Business Meeting
11:40 a.m. to 1:00 p.m. LUNCHEON — Science Fair Judges
12:00 noon to 1:15 p.m. LUNCHEON — Collegiate Academy of Science
1:15 p.m. to 4:00 p.m. COLLEGIATE ACADEMY — Presentation of papers
1:30 p.m. to 2:30 p.m. JUNIOR ACADEMY — Business Meeting
2:30 p.m. to 3:30 p.m. JUNIOR ACADEMY PAPERS
3:45 p.m. to 5:00 p.m. SCIENCE EDUCATION SECTION
Arkansas Academy of Science Proceedings

<table>
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<tr>
<td>4:00 p.m.</td>
<td>SCIENCE FAIR</td>
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<td>5:30 p.m.</td>
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<td>6:30 p.m.</td>
<td>BANQUET — Combined Academies</td>
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<td>7:45 p.m.</td>
<td>SCIENCE FAIR AWARDS</td>
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<td>8:40 p.m.</td>
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<td>7:00 p.m.</td>
<td>SCIENCE FAIR</td>
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<td>8:45 p.m.</td>
<td>SENIOR ACADEMY — Address: “Remote Sensing of Environment” — Dr. Joseph Lintz, Jr., Mackay School of Mines, University of Nevada.</td>
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Saturday, April 6

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<td>8:00 a.m.</td>
<td>SCIENCE FAIR — open to the public — Walton Gymnasium</td>
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<td>11:30 a.m.</td>
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<td>8:00 a.m.</td>
<td>JUNIOR ACADEMY — Tour of Local Industry — Reynolds Metal Company</td>
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Saturday, April 6

Henderson State College

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<td>7:30 a.m.</td>
<td>BREAKFAST — Arkansas Science Teachers Association</td>
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<tr>
<td>8:00 a.m.</td>
<td>REGISTRATION</td>
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<tr>
<td>8:30 a.m.</td>
<td>VISITING SCIENTIST — Conference for “Visiting Scientists”</td>
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<td>9:30 a.m.</td>
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<tr>
<td>9:00 a.m.</td>
<td>SCIENCE TALENT SEARCH PROGRAM</td>
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<tr>
<td>10:00 a.m.</td>
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<tr>
<td>10:00 a.m.</td>
<td>SECTION MEETINGS — Senior Academy</td>
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<tr>
<td>12:00 noon</td>
<td>LUNCH HOUR</td>
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<tr>
<td>12:00 noon</td>
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<tr>
<td>1:00 p.m.</td>
<td>BUSINESS MEETING — Senior Academy</td>
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<tr>
<td>2:00 p.m.</td>
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<tr>
<td>2:00 p.m.</td>
<td>SECTION MEETINGS — Senior Academy</td>
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ARKANSAS JUNIOR ACADEMY OF SCIENCE

PRESIDENT: Bill Adams
Benton, Arkansas

“A Comparison of Plant Communities and Physical Environments in the Lake Weddington Area — Fayetteville, Arkansas,” by Tom Hecox.

“Nutritional Studies of Escherichia Coli Using Radioactive Tracers,” by Connie Sue Haisty.

“Dermatoglyphics: A New Medical Clue in Mongolism,” by Michael Roe.


“New Potential for Ultraviolet Radiation,” by Brude Proctor.

“Precipitation and Short Leaf Pine Growth,” by Gregory Ferguson.

“The Effect of Light Changes on Mice,” by Charlotte Atchley.


“Direct Current Arcing,” by Joey Jones.

“Pythagorean Triplets,” by Ron Napier.

“Calculating the Orbit of a Satellite,” by Leon Blue.

“Factors Influencing the Falvanic Reaction,” by Wayde Robertson.


“The Effects of Ultra Low Pressure on Body Functions,” by Keith Jones.

“Comparative Study on the Effect of Color on the Memory of Elementary Children,” by Randy Auman.

COLLEGIATE ACADEMY OF SCIENCE

PRESIDENT: Curtis Barton
University of Arkansas

"Taxonomic Studies with a Species of Achromobacter," by Harold Betton.

"The Origin of Manganese in the Water Supply of Greers Ferry National Fish Hatchery," by Jim Larkin.

"Physiology of Red Pigment Production Following Wounding of Imbibed Xanthium Seeds," by James Dodson.

"The Extraction of Trace Metals with Diethyldithiocarbamate," by Tom Goodwin.


"Chronopotentiometric Behavior of Bismuth in Hydrochloric Acid," by Cynthia E. Wilson.


SCIENCE EDUCATION SECTION

CHAIRMAN: Harlan McMillan
College of the Ozarks


The Undergraduate Research Program in Chemistry at Ouachita Baptist University. Wilbur W. Everett.

ARCHEOLOGY SECTION

CHAIRMAN: James A. Scholtz
Henderson State College

"The Role of the Amateur in Arkansas Archeology," by Charles Figley, Jr.

Arkansas Academy of Science Proceedings

"Culture History in Southwest Arkansas," by Burney B. McClurkan.

"Introducing Northeastern Arkansas Prehistory," by Dan F. Morse.


BIOLOGY AND AGRICULTURE SECTION I

Zoology

CHAIRMAN: Elizabeth Brinkley
Presiding: Adelphia Basford
Henderson State College


"A Preliminary Study of the Spiders of Clark County Arkansas Compared with a Five Year Study of Mississippi Spiders," by Peggy R. Dorris.

"Maturity and Spawning Periodicity of the Gizzard Shad, Dorosoma cepedianum (Lesueur), in Beaver Reservoir," by Raymond E. Baglin, Jr. and Raj. V. Kilambi.

"Age and Growth of the Longear Sunfish Lepomis megalotis (Rafinesque) in Arkansas Waters," by Edmond J. Bacon and Raj V. Kilambi.

BIOLOGY AND AGRICULTURE SECTION II

Botany

CHAIRMAN: Elizabeth Brinkley
Henderson State College

"The Enigma of Penstemon tenuis Small (Scrophulariaceae)," by Aileen L. McWilliam.

"Coreopsis saxicola Alex. Var. duncanii Sherff (Compositae) in Arkansas," by Edwin B. Smith.

"Mitochondria in Living Fungal Cells," by George G. Smith.

"Spherosomes in Living Fungal Cells," by Vivien N. Armentrout.

Arkansas Academy of Science Proceedings


"Plastid Transformations in Ripening Solanaceous Fruits," by William M. Harris.


"Tentoxin from Alternaria tenuis is a cyclic tetrapeptide," by G. E. Templeton.


CHEMISTRY SECTION

CHAIRMAN: Wilbur W. Everett
Ouachita Baptist University


"Heterocyclic Aromatic Fluorides by a Modified Shieman Method," by Frank L. Setliff.


"Chronopotentiometric Behavior of Mercury (I) and Mercury (II) in Perchloric Acid," by Alex R. Nisbet.


"The Specific Conductance of Concentrated Solutions of Magnesium Chloride in the Water-Ethanol System," by A. Than and E. S. Amis.


**GEOLOGY SECTION**

**CHAIRMAN:** William M. Caplon
Arkansas Geological Commission

Papers read by title only:

Proetid Trilobite From The Boone Formation in Arkansas.

A Trilobite From Lower Ordovician Rocks in Arkansas.

Osagean Trilobites In Arkansas.

"Geology of the Blanchard Springs Area," by Don E. Williams.

"Functions and Procedures of the Arkansas Oil and Gas Commission," by William E. Wright.

"Multiple Porosity Techniques to Define Lithology," by Russell O. Brown.


"Hydrogeochemical Prospecting," by Charles T. Bryant.

"Geologic Factors Affecting Floods in Arkansas," by John N. Sullavan.


**PHYSICS SECTION**

**CHAIRMAN:** Clark W. McCarty
Ouachita Baptist University

"The Design of an Instrument to Measure Absorption and Velocity Dispersion of Sound in Gases at High Temperature," by Gary Strain.

MATHEMATICS SECTION

CHAIRMAN: John R. Hodges
Little Rock University

"Least Squares Estimation with Inequality Constraints," by James E. Dunn.