Twenty-Ninth Annual Meeting

OF THE

West Virginia
Academy Of Science

(Thirtieth Anniversary)

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Alderson-Broaddus College
Philippi, West Virginia

April 23-24, 1954

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OFFICERS OF THE ACADEMY

E. L. Myers, President
Robert C. Colwell, Vice-President
James T. Handlan, Jr., Secretary
Harold D. Bennett, Treasurer

Philippi
Morgantown
Keyser

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Statement of Purpose

The West Virginia Academy of Science is an organization of West Virginians who are interested in any aspect of science, whether as teachers in college or high school, as manufacturers, as professional men, or merely as lovers of science. Residents of other states are also eligible for membership. Papers on all phases of science, whether pure or applied, are acceptable for the program. The various sections and affiliated organizations appear to afford a place for any pertinent subject. All interested persons are invited to attend the meetings and to become members.
General Program

Friday, April 23

8:00 A. M. Registration—Lobby, Main Building, Alderson-Broaddus College

9:00 A. M. Study of Academy Exhibits—Lobby, Main Building.
Note: Each Committee has been requested to have an exhibit showing past activities, report for the year and possible future activities. These exhibits will take the place of reading the reports in the Business Meeting.

9:45 A. M. Business Meeting of the Academy—Chapel, Main Building
Alderson-Broaddus College

Call to order by President Myers

Reports of Officers
a. President
b. Secretary
c. Treasurer

Report of the Executive Committee

Appointment of Special Committees

Report of Nominating Committee

Reports of Standing Committees
a. Publications Committee
b. Report of the Editor of the News Letter
c. Legislative Committee
d. Activities Committee
e. Membership Committee

Election of Members
a. Junior Academy Committee
b. Collegiate Academy Committee
c. A. A. A. S. Grant Committee
d. F. E. Brooks Memorial Arboricultural Committee
e. Biological Survey Committee
f. Conservation Committee
g. Budget Committee
h. Neurology Committee

Report of A. A. A. S. Delegate

Reports of Special Committees:
a. Regional Meetings Committee
b. Industries Committee
c. Science Talent Search Committee
d. Auditing Committee
e. Publicity Committee
f. Public Relations Committee
g. Speakers Bureau Committee
h. State Science Fair Committee

Unfinished Business

New Business:

Appointment of Standing Committees and Special Committees for 1954-1955

Election of Officers

11:00 A. M. Welcome, Dr. Richard E. Shearer, President, Alderson-Broaddus College

Reply, Dr. R. C. Colwell

Address, "Living Scientifically," President E. B. Myers

12:15 P. M. Luncheon—Alderson-Broaddus College Dining Room, Snack Bar in Gymnasium, Snack Bar in Student Center (Basement of Main Building)
General Program

May, April 23

2:00 P. M. Meetings by Sections (see following pages for meetings of Sections and Affiliates)

6:30 P. M. Annual Banquet—Alderson-Broaddus College Dining Room
- Presentation of Science Talent Search Winners
- Presentation of Junior Academy Awards
- Presentation of State Science Fair Winners
- Word from the New President
- Report of the Resolutions Committee

8:00 P. M. Address, “Medical Research,” Dr. I. Davidsohn, Professor of Pathology and Chairman of Department, Chicago Medical School, Chicago, Illinois.

Following the Address an Informal Reception for guests and members of the Academy will be held at Greystone, home of the President of Alderson-Broaddus College.

JUNIOR ACADEMY

The Junior Academy will hold its registration sessions and exhibits in the College Gymnasium on Friday, April 23.

SCIENCE FAIR

The State Science Fair will be held in the Gymnasium. The exhibits will be open to visitors from 5:00 P. M. to 11:00 P. M. Friday, April 23, and 8:00 A. M. to 2:00 P. M. Saturday, April 24.

Headquarters for the Academy Meeting is the Registrar’s Office, Main Building.

SATURDAY, APRIL 24

TOURS

Tour No. 1—To Compass Coal Company, 8 miles from Philippi on Routes 19 and 77 between Philippi and Clarksburg. Arrangements have been made with Mr. Stephen Canonicke, President of the Company, to visit this coal mining operation which is one of the largest and most modern in West Virginia. Three types of mining will be explained, coal stripping, auger mining, and deep mining, and the coal cleaning plant will be visited. The group will leave the Main Building of Alderson-Broaddus College at 9:00 A. M. Saturday, April 24, and return about noon.

Tour No. 2—A Botanical Foray to the old home and collecting grounds of Dr. Hamilton McSparrin Gamble of Moorefield. This Foray is co-sponsored by the Southern Appalachian Botanical Club and the Academy. Leaders will be Dr. Earl Core and Mr. L. Wayne Wilson. The Foray will leave the Moorefield High School at 9:00 A. M. Saturday, April 24, and will proceed by way of McNeil and Gobbe to Romney where a stop will be made for lunch. In the afternoon the party will travel westwards along Route 50 to Burlington and vicinity.

Sectional Meetings

Friday, April 23

All sectional meetings will begin promptly at 2:00 P. M.

BIOLOGY

(Botany, Zoology, Physiology, Medicine and Agriculture)

Howard Mills, Acting Chairman—Chapel

“Physiological Aspects of Bird Migration”
- Earl A. Davis, Jr., West Liberty State College
- 20 min.

“Inventory of Mastodon Remains Found in Brooke County”
- Evelyn Kovalick, Bethany College
- 10 min.

“The Four-Toed Salamander, HEMIDECTYLIUM SCUTATUM in West Virginia”
- N. Bayard Greene, Marshall College
- 10 min.
"Shakespeare and Medicine: Circulation and Sleep"
S. R. Chandler, West Virginia School of Medicine 20 min.

"The Effects of Testosterone Propionate on Fighting Behavior in Young Female C57BL/10 Mice"
Joel Victor Levy, Bethany College 10 min.

"The Effects of Estrogen on Fighting Behavior in Young Male C57BL/10 Mice"

CHEMISTRY
(Chemistry, Chemical Engineering, Pharmacy)
Robert H. Glazier, Chairman—Room 5 Gymnasium

"A Spectrophotometric Study of Metal Ion Complexes of Propylene-diamine. II. Complexes with Nickel (II) Ion."
James L. Hall and Thomas J. Carpenter, West Virginia University Presented by James L. Hall 25 min.

"A Preliminary Report on the Usefulness of Ethylenediaminetetraacetic Acid Complex Exchange Reactions"
John A. Gibson and Paul R. Wilkinson, West Virginia University Presented by Paul R. Wilkinson 12 min.

"Phosphomolybdic Acid, Non-specific Reagent for Phenols"

"Dielectric Constant of Ethanol-Water Mixtures at 25° C"
James L. Hall and Harold O. Phillips, West Virginia University Presented by Harold O. Phillips 10 min.

"Empirical Estimation of Vapor Pressures of Non-Associated Liquids"
James B. Hickman, West Virginia University 15 min.

"The Energy of Activation of Triphenyl Carbimol in Certain Esterification Reactions"
John Daniel Draper, Emerson Heilman, Robert LeVilla, Bethany College. Presented by John Daniel Draper 15 min.

"Preparation and Properties of n-Nonadecyl and n-Eicosyl Formates"

MATHEMATICS AND PHYSICS
(Mathematics, Astronomy, Physics, Mechanical Engineering, Electrical Engineering)

W. W. Slaton, Chairman—Room 2 Gymnasium

"Comparison of Einstein's and Maxwell's Equations"
Robert C. Calwell, West Virginia University 10 min.

"The Dock Problem"
Joseph S. Manserak, West Virginia University 15 min.

"Some Notes on Hoyle's Theory of Cosmogony"
H. Sinclair Clair, Weston State Hospital, Weston, W. Va. 10 min.

"Alpha Particle Detection with an n-p Junction Type Germanium Crystal"
Julian Nichols and C. D. Thomas, West Virginia University Presented by Julian Nichols 10 min.

"A Locus Associated with a Triangle"
M. L. Vest, West Virginia University 10 min.

"Some Notes on the Petersburg Paradox and Moral Expectations"
Joy R. Euston, West Virginia University 10 min.

"A Contradiction in the Principle of Relativity"
Robert L. Carroll, Fairmont State College 10 min.

"Critical Years Ahead in Physics and Mathematics Teaching"
Donald C. Martin, Marshall College 10 min.
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<th>Time</th>
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<th>Speaker(s)</th>
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<tr>
<td>20 min.</td>
<td>&quot;Lecture Experiment, and (b) a Laboratory Experiment in General Physics!&quot;</td>
<td>W. W. Steator, Alderson-Broaddus</td>
<td>Room 2 Gymnasium</td>
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<td>10 min.</td>
<td>&quot;Proof, with Experimental Demonstration, of the Formula (E/d) ½ for the Velocity of Sound&quot;</td>
<td>W. W. Steator, Alderson-Broaddus College</td>
<td>Room 2 Gymnasium</td>
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| 15 min. | **GEOLOGY AND MINING**  
(Geology, Mining, Mineral Industries) | O. L. Haught, Chairman                                                    | Room 6 Gymnasium                  |
| 15 min. | "Pleistocene Drainage Changes in the Upper Ohio Valley"               | H. M. Fridley, West Virginia University                                    | Room 6 Gymnasium                  |
| 15 min. | "Sedimentation Cycles in the Pocono Rocks of West Virginia"           | Jesse L. Dally, West Virginia University                                   | Room 6 Gymnasium                  |
| 15 min. | "Sources of Error in Petrographic Analyses of Sediments"              | Milton T. Heald, West Virginia University                                  | Room 6 Gymnasium                  |
| 15 min. | "Regional Variations in the Greenbrier Limestone"                      | Russell Flowers, West Virginia Geological Survey                           | Room 6 Gymnasium                  |
| 20 min. | **SOCIAL SCIENCES**  
(Economics, Sociology, History) | Howard M. Hayward, Chairman                                                 | Room 2 Main Building              |
| 20 min. | "Early Methodism in West Virginia"                                    | Lawrence Sherwood, Petersburg, W. Va.                                     | Room 2 Main Building              |
| 25 min. | "Changing Patterns of Agricultural Production and Mechanization in West Virginia" | Robert A. Anglin, West Virginia State College                              | Room 2 Main Building              |
| 20 min. | "The Basel Printers in the Renaissance Period"                         | M. S. Cushman, Concord College                                             | Room 2 Main Building              |
| 20 min. | "The Displaced Persons' Program in the United States"                 | J. T. Richardson, Marshall College                                        | Room 2 Main Building              |
| 25 min. | "The United States and South Africa"                                   | A. J. Dadisman, West Virginia University                                   | Room 2 Main Building              |
| 20 min. | **PSYCHOLOGY** | Kenneth K. Loemker, Chairman                                               | Room 5 Main Building              |
| 20 min. | "Determination of Preference Indices for Self-Descriptive Terms"       | Martha L. Hendricks and Quin F. Curtis                                    | Room 5 Main Building              |
| 15 min. | "The Role of Muscle Action Potentials in Transfer of Training"         | John F. Brackmann, West Virginia University                               | Room 5 Main Building              |
| 25 min. | "A Group Level of Aspiration Study with Socially Accepted and Rejected Adolescents" | Rita R. Wechsbrock, West Virginia University                               | Room 5 Main Building              |
| 30 min. | "The Enigma of Transference Resistance in Psychotherapy"               | Bernard H. Light, West Virginia University                                 | Room 5 Main Building              |
| 20 min. | "An Analysis of the Stimulus Trace and Secondary Reinforcement in Discrimination Learning in the Albino Rat" | James N. Shafer, West Virginia University                                 | Room 5 Main Building              |
"Comparison of the Swimming and Running Maze Performance of Bright and Dull Rats Which Have Previously Learned a Swimming Maze"
Kenneth K. Loomer and Madeleine Fell, Marshall College
Presented by Madeleine Fell - - - - 3:35 - 3:45

"A Factorial Approach to Anti-Democratic Attitudes"
Robert F. Corder, West Virginia University - - - - 3:50 - 4:00

EDUCATION
Roy C. Woods, Chairman—Room 1 Main Building

"The West Virginia School Board Member"
Roy C. Woods, Marshall College - - - - 20 min.

"Absences from Classes"
A. A. Schoolcraft, West Virginia Wesleyan College - - 20 min.

COLLEGIATE ACADEMY SECTION
Max Ward, Chairman—Biology Lecture Room, Gymnasium

10:00 A. M. "Radioactive Air Sampling"
Truman W. Ball and Michael K. Gainer, West Virginia University

"The Seat of Some Reflexes in the Central Nervous System of the Frog"
Raymond Oxler, Glenville State College

"The Hoffman Rearrangement on 2'-Cyano-2-biphenylcarboxamide II"
A. Roy Freville, Jr., West Virginia University

"My Home Museum"
Almede Leavant, Morris Harvey College

"The Effect of Certain Stimuli upon the Larva of the June Bug"
Linger N. Arnold, Glenville State College

"The Study of Miniature Jet and Reciprocating Engines and the Forces They Set Up"
Fred Marks, Glenville State College

"The Value of the Oak Tree to West Virginia, Particularly as a Food"
Robert W. Chandler, Morris Harvey College

"Cytology of ENDOCONIDIOPHORA FAGACEARUM"
Foster L. Brown, West Virginia University

"Developmental Patterns in the Potato Meristem"
Leona Satterfield, Glenville State College

"Differential Cooling by Current Reversal"
Ralph R. Walley and Spencer A. Shriver Fairmont State College

"The Rate of Nitrogen Decrease in the Cotyledons of Bean Seedlings and the Effect of Soil Nitrates on This Decrease"
Robert E. Milligan, Glenville State College

"The Life of an Aquarium Snail"
Sophia MacGriffith, Morris Harvey College

"An Attempted Synthesis of 25, 43 Dibenzo-1-aza-cycloheptene-6"
Phil Woelx, West Virginia University

"Effects of Megasal on Broilers"
William Crum and Franklin Simon, Glenville State College

"In Vitro Observations on Nematodes"
Joseph Harris, West Virginia University

"A Sample of Attitudes of College Students towards National Groups with Information Relating to Their Origins"
John Bosley, Potomac State College

12:15 P. M. Luncheon—Alderson-Broaddus College Dining Room, Snack Bar in Gymnasium, Snack Bar in Student Center (Basement of Main Building).

1:30 P. M. Continuation of Papers
Business Meeting and Election of Officers
Announcements
THE WEST VIRGINIA PHILOSOPHICAL SOCIETY
Affiliate of the West Virginia Academy of Science
John R. Cresswell, President, West Virginia University
George Ward H., Secretary-Treasurer, Fairmont State College

**Friday, April 23, 1954**

9:45 A. M. Meeting with the Academy of Science
General Session

12:15 P. M. Luncheon

1:30 P. M. Society Meeting—Room 4, Main Building
Presentation of Faculty Papers
A. Louis B. Jennings, Marshall College
Title to be Announced
B. Robert Anglin, West Virginia State College
Title to be Announced
C. To be announced
D. Jose Al Franquiz, West Virginia Wesleyan
Title to be Announced

4:00 P. M. Business Meeting of the Academy

6:30 P. M. Banquet with the Academy of Science

**Saturday, April 24, 1954**

9:45 A. M. Presentation of Student Papers
A. Mrs. Janet Means Blake, West Virginia University
Title to be Announced
B. Remaining Student Papers to be Announced

11:00 A. M. Business Meeting

12:00 M. Luncheon—College Snack Bar

WEST VIRGINIA PSYCHOLOGICAL ASSOCIATION
Affiliate of the West Virginia Academy of Science

**Friday, April 23, 1954**

9:45 A. M. Meeting with the West Virginia Academy of Science
General Session

12:15 P. M. Luncheon

2:00 P. M. Section papers

6:30 P. M. Annual Banquet of the Academy

**Saturday, April 24, 1954**

Psychological Program at the V. A. Hospital, Clarksburg, W. Va.

9:45 A. M. Registration with Secretary at hospital auditorium

10:00 A. M. Business meeting for members—Room 302

10:00 A. M. Movie, "Emotional Health," for visitors in auditorium

12:30 P. M. Luncheon—Canteen

1:30 P. M. Hospital Tour

2:00 P. M. Greetings by the Manager and Chief of N. P. Services

2:30 P. M. Panel Discussion on School Psychology
Georgianne Stary, Chairman
Julius Wilson
Member
Member

WEST VIRGINIA SCIENCE TEACHERS' ASSOCIATION
Affiliate of the West Virginia Academy of Science

**Thursday, April 22, 1954**

6:00 P. M. Dinner Meeting—Alderson-Broadus College
Call to order by President Donald C. Martin, Marshall College
Report of NSTA Convention — Rosa Craig
Address—"School Science and Creativity"
Dr. John S. Richardson, Treasurer, National Science Teachers Association
Business Meeting
DuPont TV Film on Science Teaching
Discussion of Science Teaching Problems
Adjournment

BIOLOGICAL PHOTOGRAPHIC ASSOCIATION
Affiliate of the West Virginia Academy of Science

Friday, April 23, 1954

8:20 A. M. Registration of Members
9:30 A. M. Association Meeting — Green Room, Main Building
Call to order by President Charles S. McDaniel, Philippi, W. Va.
Business Meeting

12:15 P. M. Luncheon
2:00 P. M. Lecture
Robert F. D'Agostini, Representative of Ansco

3:30 P. M. VuMaster Stereo Biological Slides in Color
4:30 P. M. Microphotography Slides
Constance L. Jarrett

5:00 P. M. Adjournment
6:00 P. M. Banquet with the Academy

Saturday, April 24, 1954

9:30 A. M. Re-showing of VuMaster Stereo Biological Slides in Color
10:45 A. M. Tour—to be announced
STANDING AND SPECIAL COMMITTEES

Necrology
- James L. Hupp, Chairman
- F. E. Thornton
- Andrew Leitch

Conservation
- E. D. Bond, Chairman
- R. E. Seaman
- N. D. Richmond
- E. L. Plymale
- J. Y. Perry
- W. H. Tryon

Special Committees
- Regional Meetings
- H. A. Wells, Chairman
- W. E. Michael
- Jennie Harshbarger

Science Talent Search
- Myrtle M. Miller, Chairman
- Harvey N. Rexroad
- G. A. Loughridge

Industries
- D. C. Martin, Chairman
- A. H. Scholl
- W. A. Keohler
- H. A. Stansbury, Jr.

Publicity
- J. T. Richardson, Chairman
- Clyde J. Steele
- Jack Neely
- Virginia W. Fisher
- Simone Jordan
- Stanley Farr

Public Relations
- Thomas C. Campbell, Chairman
- H. A. Wells

Speakers Bureau
- George R. Hunt, Chairman
- B. G. Woods
- A. H. Anderson
- Chester W. Muth
- Wayne J. Gray

State Science Fair
- E. E. Myers, Chairman
- Myrtle M. Miller

Editor of News Letter, A. M. Reese
- A. A. A. S. Delegate, Leland H. Taylor

LOCAL COMMITTEE

Dean George Ridgway, General Chairman
- Mr. Lyle Herod, Registration and Housing
- Mrs. Dick B. Chipps, Guides and Signs
- Mr. Joe Bailey, Finance
- Mr. Charles A. Thomason, Publicity
- Mrs. Charles A. Thomason, Hospitality and Reception
- Mrs. Lyle Herod, Banquet and Meals
- Coach Rex Pyles, Transportation and Parking
- Dr. Earl Vinie, Meeting Rooms
- Mr. Norris B. Wood, Science Fair