

# ARKANSAS ACADEMY OF SCIENCE

Volume XXVII

## Proceedings

1973

Eugene B. Wittlake  
President

Clark W. McCarty  
President-Elect

William C. Guest  
Secretary

William L. Evans  
Treasurer

Dwight M. Moore  
Historian

## Secretary's Report

### MINUTES OF THE FIFTY-SEVENTH ANNUAL MEETING - APRIL 6-7, 1973

#### FIRST BUSINESS MEETING

The first business meeting of the 57th Annual Meeting of the Arkansas Academy of Science was called to order by Dr. Eugene Wittlake, President of the Academy, at 10:30 a.m., April 6, 1973, at Arkansas State University, Jonesboro. Dr. Wittlake welcomed the members to the meeting and announced that Dr. Carl Reng, President of Arkansas State University, would formally welcome the membership to the campus at the banquet to be held on the evening of April 6 in Reng Center, Arkansas State University.

President Wittlake then called for reports from the officers of the Academy and from representatives of organizations sponsored by the Academy.

#### Secretary:

The Secretary reported that the minutes of the 56th meeting held at the University of Arkansas, April 7-8, 1972, were being printed in the Proceedings, Volume 26, which was in preparation. Mimeograph copies of the minutes were being distributed at the registration table. A motion to approve the minutes would be made at the second business meeting.

The Secretary discussed membership by section. There were 189 dues-paying members in 1970, 136 in 1971, and 144 in 1972. The 1972 dues-paying members were distributed among the following sections with some members indicating a preference for more than one section.

Anthropology	3	Geology	6
Biology	80	Physics	14
Chemistry	30	Science	
Mathematics	6	Education	29

#### Treasurer:

Copies of the financial statement and summary were distributed by Dr. W. L. Evans, Treasurer, who briefly discussed the report. Dr. Evans' motion to accept the Treasurer's Report was seconded and the motion passed. The financial statement and summary follow.

#### Financial Statement Arkansas Academy of Science March 31, 1973

Cash balance in checking account, April 1, 1972	\$ 142.00
Reserve funds (certificate & savings account)	1,587.31
Total assets, April 1, 1972	\$1,729.31

#### Receipts (April 1, 1972 - March 31, 1973)

1. Individual memberships	\$1,529.00
2. Institutional memberships	650.00
3. Sales of Proceedings	853.00
4. Service for Academy meeting	152.30
5. Page charges for Proceedings	246.20
Total receipts	\$3,430.50

#### Expenditures (April 1, 1972 - March 31, 1973)

1. Arkansas Union - signs for annual meeting	\$ 7.45
2. Jocelyn Brown - winner, Science Talent Search	20.00
3. Wm. C. Guest - stamps and envelopes	32.00
4. McLlroy Bank - charge for new checks	5.52
5. Univ. of Arkansas - medallions	10.30
6. Univ. of Arkansas - programs for 1972 meeting	152.30
7. Acme Typewriter Exchange - duplicator repair	17.00
8. UA Division of Continuing Ed. - 1972 meeting	215.68
9. Univ. of Arkansas - office supplies	5.03
10. Emily P. Tompkins - editorial assistant	89.70
11. Internal Revenue Service - tax withheld	7.30
12. Emily P. Tompkins - editorial assistant	39.60
13. Dept. of Finance & Admin. - state tax withheld	1.00
14. Frances E. Clayton - Travel to AAAS meeting	100.00
15. Emily P. Tompkins - editorial assistant	45.50
16. Wm. C. Guest - travel & secretarial expense	47.27
17. Ark. U. Museum - paper, phone & stamps	18.02
18. Ark. State U. Museum - paper	10.80
19. Eugene B. Wittlake - stamps	24.00
20. Dept. Finance & Admin. - state tax withheld	.95
21. Postmaster, Fayetteville - stamps	8.00
22. Eugene B. Wittlake - postage	23.62
23. Postmaster, Fayetteville - stamps	10.56
24. Paul Raines, Junior Academy - support	200.00
25. Ark. State U. Museum - phone & stationery	33.07
26. Univ. of Arkansas - copy work	21.25
27. Noel Rowbotham, Collegiate Academy - support	150.00
28. Association of Academies of Science - dues	10.00
29. Ark. State U. Museum - phone	5.94
30. Eugene B. Wittlake - postage	31.20
Total expenditures	\$1,343.06

## Secretary's Report

### Summary

Original balance, cash & reserve, April 1, 1972	\$1,729.31
Total receipts, April 1, 1972 - March 31, 1973	3,430.50
Total	5,159.81
Less expenditures	1,343.06
Balance	3,816.75
Interest on reserve funds	112.49
Total assets	\$3,929.24
Balance in checking acct., March 31, 1973	\$2,229.44
Reserve fund balance, March 31, 1973	1,699.80
Total assets, March 31, 1973	\$3,929.24

### Editor:

Dr. James Wickliff, Editor, reported that the President, at his request, has named the following persons to the Editorial Board of the Proceedings: J.L. Dale, Joe Nix, E.B. Smith, L.C. Howick, Jack Wood Sears, and J.K. Beadles. In addition to the board, the Editor plans to call on outside reviewers as needed. Eighteen papers were accepted for publication after review by the Editor and the Editorial Board.

For Volume 26 of the Proceedings, bids were requested and four were received. One was considerably lower than the others and was accepted. Copy was sent to the printer in October and proofs will be sent to the authors in April. The Editor discussed the probable costs of reprints and page changes if printing costs can be held down. Distribution is expected to be very soon.

For Volume 27, it is hoped to get copy to the printer during the summer. The Editor requested assistance in finding reviewers for papers.

### Historian:

Dr. Dwight Moore, Historian, reported that this meeting was the third held in Jonesboro. He also reported that at the last meeting four past presidents had received special recognition and that one of the four, Dr. T.L. Smith, College of the Ozarks, recently had passed away.

### State Science Fair:

Professor Robert Saunders reported that after a lapse of two years, the State Science Fair was revived in 1972 on the campus of Arkansas State University independent of the Arkansas Academy of Science. Participation was good with 114 projects certified. The 1973 State Science Fair is being held in conjunction with the Arkansas Academy of Science and attendance is improved with a total of 191 projects certified. Finances have been adequate to take care of all preliminary expenses for this year. This is the 20th State Science Fair. Four of the eight state regions are very active.

### A. A. A. S. Council:

Dr. Frances Clayton, A.A.A.S. Council representative for the Arkansas Academy of Science, reported that with the approval of the new A.A.A.S. Constitution and By-Laws on December 30, 1972, the state academies no longer have a

representative on the Council. The state academies will participate in the Association of Academies of Science which is composed of two representatives from each of the affiliated academies of science. Under the new constitution officers of A.A.A.S. will be elected by the membership voting through their designated section of interest. Council representatives no longer have to be Fellows and the Academy as such no longer nominates members as Fellows.

### Junior Academy of Science:

Dr. Wayne Everett reported for the Junior Academy. He noted that the group was in good financial condition with a balance of \$218.32. He pointed out that the Junior Academy has been in a state of disarray for some months but is the process of reorganization. There are 17 local chapters with 225 members. Sixty-seven papers were presented at regional meetings. The membership figures may be somewhat inflated because there is a Science Fair and participants in the fair may also participate in the Junior Academy. Planning is in progress to revive the visiting scientist program and other programs of the Academy.

### Nominating Committee:

Dr. P.M. Johnston, Chairman, reported that the following persons were being nominated for President-Elect and that the election would take place at the second business meeting: E.E. Dale, Jewel Moore, Denver Prince, Arthur Johnson, and John E. Stuckey.

### Junior Science and Humanities Symposium:

Dr. E.B. Wittlake, Director, reported that 103 students and 53 teacher delegates attended the November 16-18, 1972, meeting at the Grady Manning Hotel in Little Rock. The six student delegates chosen came from Harrison, Benton, Hazen, Bay, and Fayetteville (2) High Schools. These delegates were to attend the National Symposium at West Point, N.Y., in May. Principal support continued to come from sponsorship by the Army Research Office, Pine Bluff Arsenal, Arkansas Power and Light Company, and Weyerhaeuser Lumber Company. Interest in the Symposium continues to grow but there are financial problems due to increasing costs and the limited support available from business and industry.

### Unfinished Business:

The President reported that because the Junior Academy of Science was not represented at the 56th business meeting, 1972, a request for funds to assist in the support of the Junior Academy was not made. The Executive Committee met and approved the granting of \$200 for the use of the Junior Academy. This is the sum which the Arkansas Academy of Science has made available to the Junior Academy in the past. The President requested a motion from the floor approving the granting of \$200 to the Junior Academy for 1972. Such a motion was made and seconded and the motion passed.

### New Business:

President Wittlake recognized Mr. Bill Shepard, Arkansas Planning Commission, Wilderness Area Projects. Mr. Shepard

spoke briefly about the activities of the Planning Commission and of its interest in preserving natural areas in the state and requested the support of the members of the Academy in locating such areas. He pointed out that the Planning Commission plans, as one of its activities, the publication of a list of endangered species of animals and plants in the state.

President Wittlake recognized Dr. W.L. Evans who moved that \$500 be set aside for next year by the Arkansas Academy of Science for awarding research stipends not to exceed \$100 to any one member of the Academy for supporting research investigations, and further that the Executive Committee shall be the committee for formulating the rules governing the procedures for applying, screening the applications, and making the awards. It was understood as an inherent part of the motion that members of the Executive Committee will be ineligible to receive this research stipend. The motion was seconded and after a discussion it was moved and seconded that the motion be tabled until the second business meeting. The motion to table was approved.

Dr. Wittlake appointed the following committees:

Audit Committee - Clark McCarty, Chairman, Maxine Hite, Arthur Johnson.

Constitutional Review Committee - George Templeton, Chairman, Neal Buffaloe, Dwight Moore, W.L. Evans.  
Resolutions Committee - E.E. Dale, Chairman, Jewel Moore, Kelly Oliver.

1974 Meeting Place Committee - Peggy Dorris, Chairman, Neal Buffaloe, Jim Fribourgh, Frances Clayton, Kenneth Beadles, Charles Johnson, Henry Robison, Tom L. Palko.

Screening Committee for Junior Academy of Science Grants - W.L. Evans, Chairman, George Harp, Kenneth Beadles.

President Wittlake recognized the Secretary, Dr. W.C. Guest, who read two sections of the Constitution (Article III, Sections 2 and 3) concerning types of membership in the Academy and By-Law Number 10 which specifies the dues for the various types of membership. He then moved that the By-Laws (Number 10) be amended to read as follows:

**"Dues for members of the Academy shall be \$8.00 per year for Regular Members and \$10.00 or more for Sustaining Members and will entitle the Member to receive a copy of the Proceedings. Dues of an Institutional Member shall be established by the Executive Committee and approved by the Membership of the Academy. Institutional Members shall be entitled to a copy of the Proceedings. Dues of an Associate Member shall be \$4.00 per year and will entitle the Associate Member to a copy of the Proceedings."** (Portion changed is in heavy type.)

The motion to amend the Constitution and By-Laws was seconded. The Secretary pointed out that the discussion and vote on the proposed amendment would take place at the second business meeting because the Constitution requires an amendment to be introduced at one business meeting and voted on at a later one.

There being no further business, President Wittlake adjourned the first business meeting at 11:45 a.m.

### SECOND BUSINESS MEETING

President Wittlake called the second business meeting of the Arkansas Academy of Science to order at 11 a.m., April 7, 1973.

The President recognized the Secretary who moved that the minutes of the 56th Annual Meeting, 1972, be approved as

distributed. The motion was seconded and passed.

Dr. W.L. Evans moved that his motion, which was tabled at the first business meeting, April 6, 1973, be brought to the floor for consideration. The motion was seconded and passed. Dr. Evans read the motion and it was discussed. Dr. Templeton offered the following substitute motion: "The Treasurer shall place an additional \$500 in the reserve fund with the interest from the reserve fund to be used for grants in aid of research. The grants are to be made by the Executive Committee to active members with the members of the Executive Committee ineligible for such grants." The substitute motion was seconded and the substitute motion carried.

Dr. Wittlake recognized Dr. Maxine Hite who discussed the activities of the Junior Academy of Science and asked for continued support of the senior Academy. Dr. Beadles moved that the Academy grant \$200 to the Junior Academy of Science to help support their program. The motion was seconded and passed.

The President recognized Mrs. Willie B. Johnson, the Director of the Collegiate Academy, who outlined briefly the activities of the Collegiate Academy and requested the continued financial support of the senior Academy. It was moved and seconded that the Academy make \$150 available to the Collegiate Academy to help support their program. The motion carried.

Dr. James Wickliff, Editor of the Proceedings, requested that authors submit their manuscripts to the Editor at the earliest convenience. The Editor then requested a continuation of the editorial assistance that was provided during the preceding year. It was moved and seconded that up to \$500 be made available to the Editor for editorial assistance during the fiscal year. The motion carried.

The President recognized Dr. W.C. Guest who moved that the amendment to the Constitution and By-Laws introduced at the previous business meeting be approved. The Secretary read for the members the constitutional provision that three-fourths of the members present must approve an amendment to the Constitution and By-Laws. The amendment to By-Law Number 10 as read at the first business meeting was approved.

Dr. Wickliff announced that the winner of the Science Fair would go to the International Science Fair but that funds were not available to send the alternate as has been done in the past. Professor Saunders estimated that because the winner and alternate were from the same school expenses for the alternate would be about \$100 and requested Academy assistance. Dr. Wickliff moved that the Academy pay \$100 toward the travel expenses of the alternate to attend the International Science Fair. The motion was seconded and passed.

The President asked for the report of the Meeting Place Committee. Dr. Frances Clayton reported for the Committee. It was moved and seconded that the Academy accept the invitation from State College of Arkansas, Conway, for the 1974 meeting. The motion was approved.

The President recognized Dr. Johnston who reported for the Nominating Committee. The following persons were nominated for President-Elect: E.E. Dale, Jewell Moore, Denver Prince, Arthur Johnson, and John Stuckey. It was moved and seconded that the nominations be closed. The motion passed. Dr. E.E. Dale was elected President-Elect.

Dr. Wittlake called on Dr. E.E. Dale who reported for the Resolutions Committee. The following Resolutions were approved.

Be It Resolved, that the Arkansas Academy of Science express its sincere thanks to our host

institution, Arkansas State University, for providing such pleasant facilities for the 1973 meeting and to the following people for their help in making the 57th Annual Meeting an outstanding success and enjoyable occasion: The Arrangements Committee at Arkansas State University, all Section Chairmen, and commercial exhibitors; Edward L. Richards, Program Chairman; William W. Bryd, Assistant Program Chairman; Paul Raines, Director of the Junior Academy of Science; Mrs. Willie B. Johnson, Director of the Collegiate Academy of Science; Dr. Eugene B. Wittlake, Director of the Junior Science and Humanities Symposium; and Robert O. Saunders, President of the Arkansas Science Fair Association.

The Academy also wishes to recognize Dr. E.B. Wittlake, President of the Academy, Dr. William C. Guest, Secretary, Dr. William L. Evans, Treasurer, and Dr. James L. Wickliff, Editor, for the excellent manner in which they have discharged the duties of their respective offices during the past year.

President Wittlake asked for a report from the Audit Committee. Dr. McCarty reported that the Committee had examined the books and financial records of the Treasurer and had found them to be in good order. The report of the Audit Committee was accepted.

Dr. Wittlake made a brief statement about his term as President and about the future of the Academy. He introduced the President-Elect, Dr. Clark McCarty, and passed the gavel to him. Dr. McCarty appointed a Nominating Committee of Dr. L.C. Howick, Chairman, Dr. Joe Guenter, and Dr. Neal Buffaloe to report at the next meeting.

President McCarty adjourned the 57th business meeting at 12 noon.

Respectfully submitted,

William C. Guest, Secretary

## **P R O G R A M**

### **Arkansas Academy of Science**

Fifty-Seventh Annual Meeting

**ARKANSAS STATE UNIVERSITY**  
**Jonesboro**

Meeting concurrently with sessions of the:

The Arkansas Science and Technology Council

The Collegiate Academy of Science

The Junior Academy of Science

The Arkansas Council of Teachers of Mathematics

The Northeast Arkansas Council of Teachers of Mathematics

Arkansas State Science Fair

*Friday, 6 April*

SENIOR, COLLEGIATE, JUNIOR ACADEMIES  
--Registration

ARKANSAS STATE SCIENCE FAIR -- Registration

SENIOR ACADEMY -- Papers (Mathematics)

COLLEGIATE ACADEMY -- Executive Committee

SENIOR ACADEMY -- Executive Committee

ARKANSAS SCIENCE TEACHERS ASSOCIATION  
--Business Meeting

JUNIOR ACADEMY -- Campus Tours

COLLEGIATE ACADEMY -- Papers (Biological Science)

SENIOR ACADEMY -- Business Meeting