

## PROCEEDINGS OF THE TENNESSEE ACADEMY OF SCIENCE 1988

DIANE R. NELSON, Secretary TAS  
*East Tennessee State University*

### EXECUTIVE COMMITTEE MEETING

April 22, 1988

The Executive Committee meeting of the Tennessee Academy of Science was called to order by President David Fields at 7:10 p.m. CST in the Executive Lounge of the University Center, Tennessee Technological University, Cookeville, on April 22, 1988. Members present were David Fields, president; Bernard Benson, president-elect; Diane R. Nelson, secretary; A. Floyd Scott, treasurer; Libby Workman, *Journal* editor; Richard J. Raridon, director of the Collegiate Division; William Pafford, director of the Junior Academy; Benjamin Stone, member-at-large; David Yarbrough, local arrangements chairperson; and James X. Corgan, guest.

The minutes of the November 1987 Executive Committee meeting and the annual business meeting were published in the April 1988 issue of the *Journal* and copies were distributed to the Executive Committee. The minutes were approved as printed by a motion passed unanimously.

The treasurer's report was published in the April 1988 issue of the *Journal*. Discussion was postponed until the budget proposal was considered under New Business.

The editor of the *Journal*, Libby Workman, reported that currently there are 10 manuscripts in review, seven are in author revision, and 11 are ready for publication. Dr. Aaron Sharp has been invited and has agreed to write an autobiographical article for a special issue of the *Journal* which will be dedicated to him for his significant contributions to science. Postal charges for mailing the *Journal* have increased 12%, and printing costs will increase between 5–10% over the next few issues. The editor urged program directors to submit items to the *Journal* in time to include the information in the appropriate issues. Manuscripts submitted by Dr. Corgan on the history of the academy were discussed. The editor's report was accepted.

The president presented the following report by Dr. Wayne Stevenson, director of the Visiting Scientist Program:

"Oak Ridge Associated Universities (ORAU) continues to administer the Tennessee Visiting Scientist Program. The program supports visits by scientists,

engineers, physicians, and other professionals to junior and senior high schools throughout the state. Sponsored by the Tennessee Academy of Science, the program's services are offered to Tennessee's schools at no cost.

With the use of comprehensive mailing lists obtained from the Tennessee Department of Education, all junior and senior science and mathematics teachers were mailed program fliers. These fliers described the program and provided instructions on how to obtain a Visiting Scientist Roster. Rosters and application forms were automatically mailed to schools. Rosters were also sent to individual teachers upon request. Combined with promotional activities for other educational programs administered by ORAU, announcements were carried in educational newsletters, newspapers, and other media. The program was also promoted at the Tennessee Science Teachers Association and other statewide meetings and conferences.

The program continues to be recognized and used as a valuable teaching resource. Following is a summary of academic year 1987–88 program activities through April 11, 1988:

Number of Scientists on the Roster	170
Number of Visits Requested	61
Number of Visits Completed	45
Number of Visits Cancelled	0
Number of Visits Declined	16
Number of Students Contacted	approx. 4000
Number of Teachers Contacted	approx. 100
Number of Classes Contacted	approx. 125"

The report was accepted and Dr. Stevenson was commended for the excellent program.

The director of the Collegiate Division, Richard J. Raridon, reported that the spring meetings were underway. The editor requested that information about the meetings be sent to the *Journal*. The report was accepted.

Dr. Raridon, AAAS representative, presented the following report:

"I represented the academy at the annual meetings of the American Association for the Advancement of Science and the National Association of Academies of Science

which were held in Boston February 11–15, 1988. The NAAS held a workshop entitled “Responding to the Need for Improvement in Science Education: A Leadership Role for Academies of Science.” Papers were presented on Centers to Promote Science Education Information and Dissemination, State Alliances to Promote Science Education, Research Participation for Junior Scientists, and Influencing Policy Decisions to Effect Change at the State Level: Legislative and Executive. Copies of these papers will be included in the NAAS Proceedings which each academy officer will receive.

I attended the business meeting for AAAS Section Y with which our academy and a number of other academies are affiliated. The title for Section Y is General Interest in Science and Engineering. I also served on the nominating committee for Section Y this year.”

The director of the Junior Academy, William Pafford, presented the following report:

“The 1988 spring meeting is scheduled for Friday, April 22, at Pearl Cohn Comprehensive High School in Nashville. A total of twenty-two students have been invited to present their research papers. We have received fifty-eight papers this year. They were submitted from nine different schools. This compares favorably with last year’s total of thirty-seven papers from seven different schools.

A representative of the Tennessee State Department of Education, Geraldine Farmer, is scheduled to be with us at the April 22 meeting. At that time a certificate and a small honorarium will be presented to an outstanding science teacher from each of the three grand divisions of the state. The three teachers to be recognized are as follows: East Tennessee—Ms. Gilda Darlene Lyon, Howard High School, Chattanooga; Middle Tennessee—Mr. Charles A. Lee, Stewart County High School, Dover; West Tennessee—Ms. Lisa DuFur, Central High School, Memphis.”

The director’s report was accepted.

Dr. Pafford reported that Geraldine Farmer, State Department of Education, regretted that she could not attend the Executive Committee meeting. A motion was passed to express a vote of thanks to the state for its support of TAS programs. A motion was passed for President David Fields to write a letter to Geraldine Farmer with a brief summary of the TAS programs.

David Yarbrough, chairperson of local arrangements, reported on plans for the 1988 annual meeting at Tennessee Technological University.

Bernard Benson, president-elect and program chairperson, discussed possible speakers for the general session and the luncheon. A motion was passed to authorize him to finalize plans for the speakers.

#### OLD BUSINESS

The treasurer, Floyd Scott, reported that he has purchased software and a printer for the treasurer’s office.

He will also purchase a computer, with the approval of President David Fields, Past-president Gus Tomlinson, and President-elect Bernard Benson.

The secretary, Diane R. Nelson, reminded the Executive Committee of the necessity of appointing a “Meeting Coordinator” as an assistant to the secretary and the president in organizing the annual meeting. The proposal was originally made at the November 1986 meeting, but no action was taken at the April or November 1987 meetings. A motion was passed that the Nominating Committee will recruit a meeting coordinator and will submit the name of the individual to the Executive Committee for approval prior to the November meeting.

Discussion was held on a proposal to give 1) awards to the best student paper(s) presented at the annual meeting and/or 2) research awards to graduate students. At the November meeting, plans will be proposed by Dr. Stone for presentation awards and by Dr. Yarbrough for research awards.

The president was directed to ask section chairpersons to nominate and to invite nominations for regional and/or national editors for the *Journal*, as approved by the constitutional amendment passed at the November 1986 annual business meeting.

The president was directed to contact other professional societies that have chapters in the state and to encourage them to interact with TAS, as approved at the April 1987 Executive Committee meeting.

#### NEW BUSINESS

Future meetings will be held at Tennessee Technological University in 1988, Tennessee State University in 1989, and UT Chattanooga in 1990. A motion was passed for President Fields to contact schools for invitations for 1991–1992.

A motion was passed for Dr. Raridon to arrange for a year’s membership in TAS to be given to the student presenting the best paper in each regional collegiate session. The names of the individuals will be sent to the *Journal*.

Benjamin Stone announced that the Center for Field Biology at Land Between the Lakes will host a symposium on the vegetation and flora of Tennessee with papers presented by prominent botanists who have worked in Tennessee. The center will publish the papers as a special issue. A motion was passed that the academy jointly sponsor the symposium with TVA and LBL. An announcement about the symposium will be published in the October and January issues of the *Journal*.

A motion was passed for Benjamin Stone to organize a meeting of biology chairpersons at the annual meeting of the academy. The meeting will be open to any chairperson (or representative).

James X. Corgan discussed the history of membership in the academy. Ways to increase membership were suggested. A motion was passed for Bernard Benson and

Richard Raridon to develop a prospectus for industrial memberships, to be presented at the November meeting. A motion was passed for David Yarbrough and David Kesler to print a membership brochure, which was previously authorized.

The treasurer's report and the following budget for 1988-1989 were adopted.

CASH BALANCE - JULY 1, 1987	\$31,525.23
RECEIPTS	
STATE OF TENNESSEE	19,000.00
MEMBERSHIP DUES	6,336.00
LIBRARY SUBSCRIPTIONS	1,575.00
INTEREST EARNED	1,342.10
JOURNAL PAGE CHARGES	960.00
JOURNAL SALES	20.00
CONTRIBUTIONS	353.00
REGISTRATION AND LUNCHEON FEES	1,887.00
EXHIBITORS FEES	75.00
AAAS AWARD	1,000.00
TOTAL RECEIPTS	32,548.10
TOTAL CASH AVAILABLE	64,073.33
DISBURSEMENTS	
JOURNAL PRINTING COSTS	11,158.54
VISITING SCIENTIST PROGRAM	4,600.00
TN JUNIOR ACADEMY OF SCIENCE	1,534.91
ANNUAL MEETING	2,725.68
BOARD MEETING EXPENSES	626.90
TREASURER'S EXPENSES	538.05
PRESIDENT'S EXPENSES	471.75
STUDENT RESEARCH GRANTS	1,853.91
COLLEGIATE DIVISION EXPENSES	31.55
SECRETARY'S EXPENSES	356.67
MISC. (NAAS DUES AND TAS CHARTER)	390.00
TOTAL DISBURSEMENTS	25,287.96
CASH BALANCE - APRIL 1, 1988	38,785.37
RECEIPTS	32,548.10
DISBURSEMENTS	25,287.96
CASH INCREASE	7,260.14
CASH BALANCE - JULY 1, 1987	31,525.23
CASH BALANCE - APRIL 1, 1988	38,785.37
BREAKDOWN OF HOLDINGS	
APSU ACCOUNT	444.87
PRIMARY CHECKING ACCT., FIRST FED.	4,555.50
SAVINGS ACCOUNT, FIRST FED.	33,785.00
TOTAL HOLDINGS AS OF APRIL 1, 1988	38,785.37
PROJECTED DISBURSEMENTS 1988-1989	
PRESIDENT'S OFFICE	600.00
SECRETARY'S OFFICE	450.00
TREASURER'S OFFICE	1,600.00
CAPITAL OUTLAY (COMPUTER)	2,000.00
JUNIOR ACADEMY OF SCIENCE	4,800.00
VISITING SCIENTIST PROGRAM	4,600.00
JOURNAL	16,000.00
RESEARCH GRANT (AAAS)	1,000.00
ANNUAL MEETING	2,500.00
COLLEGIATE DIVISION	1,000.00
BOARD MEETING EXPENSES	1,200.00
AAAS	300.00
TOTAL BUDGET	36,250.00

The meeting was adjourned at 10:15 p.m. CST.

## EXECUTIVE COMMITTEE MEETING

November 17, 1988

The Executive Committee meeting of the Tennessee Academy of Science was called to order by President David Fields at 7:15 p.m. CST in the Executive Lounge of the University Center, Tennessee Technological University, Cookeville, on November 17, 1988. Members present were David Fields, president; Bernard Benson, president-elect; Gus Tomlinson, past-president; Diane Nelson, secretary, A. Floyd Scott, treasurer; Libby Workman, *Journal* editor; Richard Raridon, director of the Collegiate Division; William Pafford, director of the Junior Academy; Ernestine Friedman, assistant to the director of the Visiting Scientist Program; Tom Byrne, meeting coordinator; Geraldine Farmer, State Department of Education; Benjamin P. Stone, David Kesler and Habte Churnet, members-at-large; David Yarbrough, local arrangements chairperson; and James X. Corgan, guest.

The secretary, Diane R. Nelson, had mailed printed copies of the minutes of the April 1988 Executive Committee meeting. A motion to accept the minutes as distributed was approved unanimously.

The treasurer, Floyd Scott, presented his audited report, which appears elsewhere in these proceedings. Dr. Scott reported that he will be resigning June 30, 1989, and will turn over the books to the new treasurer at the end of the fiscal year (June 30). With the approval of the Executive Committee, the president will appoint a new treasurer, who will be nominated for election in November. The report was accepted by a motion passed unanimously.

The editor, Libby Workman, reported that seven manuscripts were in review, 10 were in author revision, and 13 accepted for publication. A motion was passed to authorize the editor to solicit autobiographical articles from A.J. Sharp, Elsie Quarterman, Fred Wolfe, and Stan Cohen for a special issue of the *Journal*. The selection of editors for the various sections was discussed. A motion was passed for the president to appoint a committee chaired by the editor to study the problem and bring a proposal to amend the bylaws to the constitution to the April Executive Committee meeting. President Fields appointed Libby Workman, Gus Tomlinson, David Kesler, and Benjamin Stone to the committee. The inclusion of items other than manuscripts in the *Journal* remains under the control of the editor. The editor's report was accepted.

The following report of the director of the Visiting Scientist Program was presented by Ernestine Friedman, University Programs Division, Oak Ridge Associated Universities:

"The Tennessee Visiting Scientist Program is administered by Oak Ridge Associated Universities and supports visits by scientists, engineers, physicians, and other related professionals to middle, junior and senior high schools throughout the state. The expanded 1987-88

program shows an eleven percent increase in roster membership and enjoys the participation of members of Sigma Xi Scientific Society and the Tennessee Mathematics and Computer Science Foundation. The 1987-88 program has also experienced an increased level of participation from The University of Tennessee and Oak Ridge National Laboratory.

The Tennessee Visiting Scientist roster was updated, reprinted, and mailed to all junior and senior high schools in Tennessee. The program was also advertised at the meeting of the Tennessee Science Teachers Association in Cookeville in November. Combined with promotional activities for other educational programs administered by Oak Ridge Associated Universities, announcements were carried in educational newsletters, newspapers, and fliers.

#### SUMMARY OF ACADEMIC YEAR 1987-88

##### PROGRAM ACTIVITIES

Number of Scientists on the Roster	169
Number of Visits Requested	68
Number of Visits Completed	38
Number of Students Contacted	4,280
Number of Teachers Contacted	47
Number of Classes Contacted	27

An average of 112 students were contacted per visit. Although each region of the state used the program, the majority of visits were made in the Eastern region."

The report was accepted.

The director of the Collegiate Division, Richard J. Raridon, presented the following report:

"The Collegiate Division held regional meetings during April 1988. The Eastern Regional Meeting at Carson-Newman College attracted nine papers by students from four schools. There were ten papers presented by students from five schools at the Middle Regional Meeting at Tennessee Technological University. The Western Regional Meeting at Memphis State University had two sections, biological and physical, with ten papers in each section. Three schools were represented. Abstracts of the papers have been published in the *Journal*."

The report was accepted.

The director of the Junior Academy, William Pafford, presented the following report:

"The 1988 spring meeting of the Tennessee Junior Academy of Science was held at Pearl-Cohn High School in Nashville, on April 22, 1988. A total of fifty-eight papers were submitted by high school students across the state, and twenty-two of these students were invited to present their papers at the annual meeting.

Abstracts of all papers presented are being published in the *Annual Handbook and Transactions of the Tennessee Junior Academy of Science*, with the top five being published in their entirety. The two highest-ranked presenters were Ms. Angela Malin, Camden Central High School and Mr. Michael Anthony Lapuente, White Station High School, Memphis. They will receive a one-year

membership in AAAS and will receive *Science* magazine.

Three outstanding high school teachers were honored at the annual meeting. They were Ms. Lisa DuFur, Central High School, Memphis, (West Tennessee); Mr. Charles Lee, Stewart County High School, Dover (Middle Tennessee); and Ms. Gilda Lyon, Howard High School, Chattanooga (East Tennessee). Each received a framed certificate and a check for \$200. Dr. Geraldine Farmer, Science Consultant with the Tennessee State Department of Education, congratulated the teachers. We are indebted to Dr. Farmer for developing the process whereby the outstanding teachers are selected. The 1989 spring meeting will be held at Pearl-Cohn High School on April 21."

The director's report was accepted.

The representative of the State Department of Education, Geraldine Farmer, explained the process for selecting the Distinguished Teacher Awards. The main difficulty is getting teachers to submit applications. She emphasized the importance of the academy's work with high school students.

Dr. David Yarbrough, chairperson of local arrangements, reviewed the arrangements for the meeting. The program chairperson, Dr. Bernard Benson, reviewed the program, including the general session. They were commended for their excellent work.

The president, David E. Fields, presented the following report:

Letters of appreciation were sent to speakers and to local arrangements persons for their help with the 1987 annual meeting, to TAS members who volunteered to work with committees, to past committee chairpersons requesting their continuing participation in the academy, to award members in the Junior Academy, and to participants from Tennessee in the 1988 International Science and Engineering Fair.

At our request, the AAAS contributed \$900 to the academy to support our student research programs.

At the request of Linda Cain of ORNL and with mail notification of the Executive Committee and telephone concurrence of the majority of its members, the academy donated \$500 to Project SEED. This contribution is being noted in publicity packets being distributed by ORNL.

At the request of the Executive Committee, several initiatives were undertaken to increase participation in the annual meeting and ultimately, in the academy itself. James X. Corgan was encouraged to pursue contacts with geologists and psychologists. I sent a description of academy activities and an invitation to consider joining us for future annual meetings to Tennessee Sigma Xi chapters and clubs, various astronomy organizations including the Southeast Region of the Astronomical League, several science-oriented museums, the Tennessee/Kentucky Society of American Foresters, and TAAPT. George Carney, secretary-treasurer of TAAPT replied that they prefer to meet in the spring as they have done since 1978

since "...the attendance was much better." Carney indicated that they would not expect support for the idea that the TAAPT participate in a fall meeting but that he would bring my letter before their Executive Committee on April 7-8, 1989. W. Scott Champney, president of the Southern Appalachian Chapter of Sigma Xi, replied that their chapter would like to meet with us when we meet in their area. Marion R. Wells, president of the Middle Tennessee State University Chapter, polled their membership and found almost unanimous support for the proposal that they meet with us. Ken Purdy, president of Tennessee Tech Sigma Xi, expressed "strong support for a joint annual meeting on occasions that the academy meets at or near our institution," and "good support for participating in a meeting of the Sigma Xi affiliates of Tennessee at the same location of the academy, on a regular (yearly) basis." Rita Fairman, president of the Southeast Region of the Astronomical League replied favorably to a joint meeting, and is polling other officers. Keith Tarpley of ORION is in favor of a joint meeting, and is polling members about their preferences. I conclude that we should be able to strengthen the academy by meeting with other groups, both regional and local, and that rescheduling our annual meeting for a spring date would be advantageous.

At the request of the Executive Committee, a Political Liaison Committee was established. This committee, composed of S.K. Ballal, Frank Dodson, Gus Tomlinson, Bill Ellis, and Gordon Morris, has several responsibilities, among them ascertaining how best the academy can serve the needs of the scientific community and the state.

It was pointed out that the Political Liaison Committee is an ad hoc committee, not a standing committee of the academy. It was agreed that the academy will continue to meet in November. Invitations for 1991 will be solicited from David Lipscomb College and Vanderbilt University.

The following reports from standing committees were presented:

*AUDITING.* Auditor James F. McKinnie sent the following report:

"I have examined the receipts and disbursements records of the Tennessee Academy of Science for the fiscal year ended June 30, 1988, and, in my opinion, the attached Cash Receipts and Disbursements statement correctly reflects the cash position of the organization at June 30, 1988. The entire accounting system appears to be well maintained.

I also prepared a Return of Organization Exempt from Income Tax, including a Schedule A. This Form 990 must be filed with the Internal Revenue Service no later than November 15, 1988."

*FELLOWS.* Dr. S.K. Ballal, chairperson of the Fellows Committee, submitted the following report:

"The Fellows Committee of the Tennessee Academy of Science submits the names of the following as nominees

for Fellows of the academy. We recommend that they be elected by the membership of the academy. Dr. James A. Adams, chairman, Department of Natural Science, The University of Maryland, Princess Ann, MD 21853; Dr. Frank J. Bulow, Professor of Biology, Tennessee Technological University, Cookeville, TN 38505; Dr. Irving T. Glover, Professor of Chemistry, Roane State Community College, Harriman, TN 37748; Dr. Alvin Tirman, Professor of Mathematics, East Tennessee State University, Johnson City, TN 37614."

A motion was passed to present the names to the membership at the annual business meeting for approval. *MEMBERSHIP.* Dr. James X. Corgan, chairperson of the Membership Committee, presented his report verbally. An increase of 22-23% in the current membership was due to active recruiting. Discussion was held on the possibility of a joint meeting with the Tennessee Historical Society. A motion was passed that Dr. Corgan and Dr. Tom Byrne, meeting coordinator, should coordinate contacts with other organizations with regard to meeting with the academy, and should report their recommendations to the Executive Committee for action. The names of the new members will be presented for acceptance by the membership at the business meeting.

*NECROLOGY.* No deaths were reported among the membership of TAS during the year.

*NOMINATING.* Dr. Gus Tomlinson, chairperson, proposed the following slate of officers for 1989:

President:	Dr. Bernard W. Benson
President-Elect:	Dr. Prem Kahlon
Secretary:	Dr. Diane R. Nelson
Treasurer:	Dr. A. Floyd Scott

Dr. Scott accepted the nomination with the understanding that he will resign June 30, 1989. The Executive Committee approved a motion to accept Dr. Tom Byrne as meeting coordinator.

The proposed slate of officers was approved unanimously and will be presented to the membership at the annual business meeting.

*RESEARCH.* Dr. Prem Kahlon, chairperson, will submit a report at the annual business meeting.

*RESOLUTIONS.* Ms. Betty C. Davis, chairperson, will present the resolutions at the annual business meeting.

#### OLD BUSINESS

Discussion was held on proposals to give 1) awards to the best student paper(s) presented at the annual meeting and/or 2) research awards to graduate students. Grants to faculty members supervising high research projects will be considered. At the April meeting, plans will be proposed by Dr. Stone for presentation awards and by Dr. Yarbrough for research awards.

A motion was passed to authorize Bernard Benson and

Richard Raridon to proceed on developing an industrial membership and David Yarbrough and David Kesler to print a membership brochure.

#### NEW BUSINESS

A motion was previously passed to co-sponsor a symposium on the vegetation and flora of Tennessee with TVA and LBL. A new motion was passed to supplement publication of the invited papers of the LBL Symposium as a special issue of the *Journal* in July, up to a maximum cost to the academy of \$8,000. Dr. Wayne Chester, APSU, will assist the editor with the editing and publication of the issue.

The academy will meet at Tennessee State University in 1989 and UT Chattanooga in 1990 (the 100th meeting of the academy).

The meeting was adjourned at 10:10 p.m. CST.

### THE NINETY-EIGHTH MEETING OF THE TENNESSEE ACADEMY OF SCIENCE

November 17-18, 1988

Tennessee Technological University

The annual meeting of the Tennessee Academy of Science, Inc., was held November 17-18, 1988, at Tennessee Technological University, Cookeville. David Yarbrough was chairperson for local arrangements. Dr. Bernard Benson, UT Chattanooga, was program chairperson.

The Executive Committee meeting was held in the Executive Lounge of the University Center on Thursday, November 17, 1988. The general session, luncheon, and section meetings were held on Friday, November 18. The general session was held in the Multipurpose Room, University Center, beginning at 9:00 a.m., with Dr. Bernard Benson presiding. The academy was welcomed by Dr. Angelo A. Volpe, president, Tennessee Technological University. The theme of the general session was "Water-A Vital Resource." Dr. V. Dean Adams spoke on "TTU's Water Center" and Dr. Richard D. Urban spoke on "Tennessee Valley Drought Update." The invited lecture, "Public Participation in Water Resources Management," was given by Dr. Benjamin C. Dysart, III.

The annual luncheon was held in the OVC Room, University Center, beginning at 11:30 a.m. on Friday. President-elect Dr. Bernard Benson presided. Dr. Adelia M. Peters, Bowling Green State University, spoke on "Environmental Resources and Problems in the People's Republic of China." The annual business meeting followed the luncheon at 12:30 p.m., with President David Fields, presiding. Section meetings were held Friday afternoon as listed in the program. Biology Department/Division chairpersons met in the Multipurpose Room, University

Center, at 11:00 a.m. The meeting was organized and chaired by Dr. Benjamin P. Stone, Austin Peay State University. Organizational meetings were held for the establishment of a History of Science section and reinstatement of a Psychology section. Collegiate Division papers were presented in appropriate sectional meetings.

#### ANNUAL BUSINESS MEETING

November 18, 1988

The annual business meeting of the Tennessee Academy of Science, Inc., was called to order by President David Fields in the OVC Room, University Center. The president determined that a quorum was present.

The reports of the secretary, treasurer, editor, and directors of the three educational programs were similar to those presented the previous evening at the Executive Committee meeting. The reports were approved and will be recorded in the minutes.

The report of the auditor was presented by the secretary, Diane R. Nelson. The secretary read the names of the Fellows nominees, approved by the Executive Committee upon recommendation of the Fellows Committee, chaired by S.K. Ballal. A motion was passed that Dr. James A. Adams, Dr. Frank J. Bulow, Dr. Irving T. Glover, and Dr. Alvin Tirman be elected Fellows of the academy. The treasurer reported 107 new members as of November 17, with more individuals joining Friday morning. This represents an increase of more than 22%. A motion to accept the new members was passed. The secretary reported there were no known deaths among the membership during the year.

Dr. Prem Kahlon, chairperson of the Research Committee, presented the following report:

"The Research Committee submitted a proposal requesting \$1,000 from AAAS for the 1988-89 school year. In response to this request, the academy received a sum of \$900 for this purpose from AAAS. In addition to this amount, the academy had set aside a sum of \$1,000 from its own resources for the purpose of encouraging secondary school students' science projects.

The availability of these funds was announced in the October issue of the academy *Journal*. Announcements were also mailed to all the science teachers who had sought funds in previous years. The committee received 12 applications from six schools requesting \$4,334. The committee recommended awards for 11 students in the amount of \$1,900.

The Research Committee met at 11:00 a.m. on November 18, 1988, to review the applications and recommended awards for the applicants. The committee feels that more publicity is needed to generate interest from many more schools from all parts of the state. The committee requests all members of the academy to spread the word for availability of funds."

The secretary presented the report of the Nominating

Committee, and the president asked for further nominations from the floor; there were none. A motion was passed to accept the nominees, and the secretary was instructed to cast one vote which would represent the unanimous election of Bernard Benson as president, Prem Kahlon as president-elect, Diane R. Nelson as secretary, and Floyd Scott as treasurer.

Ms. Betty Davis, chairperson of the Resolutions Committee, presented the following resolution, which was accepted:

#### RESOLUTION OF APPRECIATION

"WHEREAS, the Tennessee Academy of Science, including the Collegiate Division, is enjoying a most pleasant, profitable, and well organized series of meetings at Tennessee Technological University and

WHEREAS, the success of these meetings has resulted mainly from the efforts of the officers of the respective sections; the Local Arrangements Committee representing Tennessee Technological University, composed of David Yarbrough, chairman, John Mason, S.K. Ballal, and Richard Raridon; the program chairman, Dr. Bernard Benson; from the recognition given the meetings by the press, television, and radio stations; and from the generous hospitality of the host institution, Tennessee Technological University and its president.

BE IT RESOLVED, therefore, that the Tennessee Academy of Science expresses its sincere appreciation to these and all others who have contributed to the success of these meetings."

#### NEW BUSINESS

Dr. Tom Byrne, Roane State Community College, was appointed "Meeting Coordinator," as an assistant to the secretary and president in organizing the annual meeting.

Brochures for industrial and individual memberships are being developed.

The academy will meet at Tennessee State University in 1989 and UT Chattanooga in 1990 (the 100th meeting of the academy).

The meeting was adjourned at 1:00 p.m.

### TREASURER'S REPORT

November 17, 1988

A. Floyd Scott, *Treasurer*

CASH BALANCE - JULY 1, 1988 31,680.24

#### RECEIPTS

STATE OF TENNESSEE	19,000.00
MEMBERSHIP DUES	2,349.00
LIBRARY SUBSCRIPTIONS	135.00
INTEREST EARNED	645.91
JOURNAL PAGE CHARGES	410.00
JOURNAL SALES	70.00
CONTRIBUTIONS	49.00
REGISTRATION AND LUNCHEON FEES	423.50
<b>TOTAL RECEIPTS</b>	<b>24,007.41</b>
<b>TOTAL CASH AVAILABLE</b>	<b>55,687.65</b>

#### DISBURSEMENTS

JOURNAL PRINTING COSTS	4,647.84
VISITING SCIENTIST PROGRAM	0.00
TENNESSEE JUNIOR ACADEMY OF SCIENCE	242.99
ANNUAL MEETING	0.00
BOARD MEETING EXPENSES	0.00
TREASURER'S EXPENSES	135.88
PRESIDENT'S EXPENSES	0.00
STUDENT RESEARCH GRANTS	0.00
COLLEGIATE DIVISION EXPENSES	0.00
SECRETARY'S EXPENSES	312.28
MISCELLANEOUS (PROJECT SEED, ORNL)	500.00
<b>TOTAL DISBURSEMENTS</b>	<b>5,838.99</b>

CASH BALANCE - NOVEMBER 1, 1988 49,848.66

RECEIPTS 24,007.81

DISBURSEMENTS 5,838.99

CASH INCREASE 18,168.42

CASH BALANCE - JULY 1, 1988 31,680.24

CASH BALANCE - NOVEMBER 1, 1988 49,848.66

#### BREAKDOWN OF HOLDINGS

APSU ACCOUNT	697.26
PRIMARY CHECKING ACCOUNT, FIRST FED.	5,142.35
SAVINGS ACCOUNT, FIRST FED.	44,009.05
<b>TOTAL HOLDINGS AS OF NOV. 1, 1988</b>	<b>49,848.66</b>