

PROCEEDINGS OF THE TENNESSEE ACADEMY OF SCIENCE 1994

Sarah H. Swain, Secretary TAS

Middle Tennessee State University

TAS EXECUTIVE COMMITTEE MEETING

22 April 1994

The Executive Committee of the Tennessee Academy of Science (TAS) was called to order by President Wilburn A. Sliger at 6:12 PM CST in the President's Conference Room, Avon Williams Campus, Tennessee State University, Nashville, Tennessee, on 22 April 1994. Members present were: Wilburn A. Sliger, President; George Murphy, Past President; John W. Harris, Treasurer; Sarah H. Swain, Secretary; D. M. S. Bhatia, John Freeman, and David Pitts, Members-at-large; Howard Freeman, Meeting Coordinator; Linda Roberson, Local Arrangements Chairperson.

Following notification of a correction made by Secretary Swain, the Executive Committee approved a motion to accept the minutes of the November 1993 Executive Committee meeting. Treasurer Harris presented the following report:

TREASURER'S REPORT

15 April 1994

John W. Harris, Treasurer

CASH BALANCE - 1 JULY 1993 95,762.11

RECEIPTS

International Science Fair	9,839.00
TJAS Trust Fund	1,159.64
State of Tennessee	21,414.92
Membership Dues	9,455.00
Institutional Sustaining Memberships	5,000.00
Library Subscriptions	3,120.00
Interest Earned	1,042.23
Journal Page Charges	2,884.00
Journal Sales	35.00
Contributions	467.16
Registration and Luncheon Fees	1,645.00
AAAS Award	500.00
Exhibitor's Fees	175.00
<b>TOTAL RECEIPTS</b>	<b>56,736.95</b>

TOTAL CASH AVAILABLE 152,499.06

DISBURSEMENTS

Vanguard Star Fund	70,000.00
Journal Printing Costs	7,145.41
Visiting Scientist Program	5,000.00
Tennessee Junior Academy of Science	3,364.88
Annual Meeting	2,406.81
Board Meeting Expenses	422.52
Treasurer's Expenses	1,477.19
Student Research Grants	2,159.80
Collegiate Division Expenses	300.00
Secretary's Expenses	409.99
Auditor's Fee	700.00
Annual Dues and Fees	132.50
Brochure	715.00
Printing of Constitution	93.75
AAAS Annual Meeting	500.00
<b>TOTAL DISBURSEMENTS</b>	<b>94,827.85</b>

CASH BALANCE - 15 April 1994 57,671.21

Receipts	56,736.95
Disbursements	94,827.85
Cash Decrease	38,090.90

CASH BALANCE - 1 July 1993 93,762.11

CASH BALANCE - 15 April 1994 57,671.21

BREAKDOWN OF TAS HOLDINGS

Memphis State Account (Journal)	658.16
TTU Account	210.15
Checking Acct., People's Bank and Trust	1,540.42
Savings Acct., People's Bank and Trust	55,262.48
<b>TAS HOLDINGS as of 15 April 1994</b>	<b>57,671.21</b>

TJAS TRUST FUND (Vanguard Star Fund)

Initial Value (07/06/93)	70,000.00
Deposits (Capital Gains Reinvested)	2,108.44
Disbursements (Dividend Distribution)	1,159.48
Account Value -	
09/30/93	73,478.91
12/31/93	72,785.85
03/31/94	70,560.48

TOTAL HOLDINGS as of 15 April 1994 128,231.69

PROPOSED BUDGET FOR 1994-1995  
(Projected Disbursements)

Secretary	500.00
Treasurer	1,500.00
Jr. Academy	6,000.00
Visiting Scientist Program	5,000.00
Journal	12,000.00
Research	2,500.00
Annual Meeting	2,000.00
Collegiate Division	1,500.00
Board Meetings	1,000.00
AAAS	500.00
Audit Fee	700.00
Annual Dues/Fees	150.00
<b>TOTAL</b>	<b>33,350.00</b>

Treasurer Harris explained the auditor's recommendation to bond the Treasurer at \$20,000.00. A motion to do so was unanimously approved. The cost of setting bond is estimated to be approximately \$250.00.

It was noted that state funds (\$21,000.00 in 1993) would not be available for the 1994-1995 academic year. Following discussion regarding the need to continue to establish sources of funds which are independent of state allocations, a motion to accept the Treasurer's report was approved.

The following report was submitted by Managing Editor, Phyllis Kennedy. "Volume 69 issue 1 of the *Journal of the Tennessee Academy of Science* has been printed and mailed. This issue consisted of 32 pages and was printed at a total cost of \$2505.55. Eight articles were published in the issue, and authors were invoiced for a total of \$1575.00 in page charges.

The next issue, 69(2), will contain a profile of the new President of TAS, minutes of the 1993 April and November Executive Committee meetings and the 1993 November annual business meeting, abstracts of papers presented at the 1993 annual meeting, the revised Constitution (approved at the 1993 annual meeting), two articles, and announcements (including obituaries). This issue will be mailed in May.

There is no longer a backlog of accepted manuscripts. Currently, accepted manuscripts can be published in the next available issue.

With the approval of the revised Constitution, Section Editors are now nominated by the Managing Editor and approved by the Executive Committee. Section Editors serve for 3 years and may be nominated for another term at the end of the 3 years. At this time, the Managing Editor submits the following list of nominees as Section Editors for approval by the Executive Committee:

Botany—James D. Caponetti, Department of Botany, The University of Tennessee, Knoxville, TN  
 Cell and Molecular Biology—Charles J. Biggers, Department of Biology, Memphis State University, Memphis, TN  
 Chemistry—David J. Wilson, Department of Chemistry, Vanderbilt University, Nashville, TN  
 Engineering—Michael Daley, Department of Electrical Engineering, Memphis State University, Memphis, TN  
 Geology and Geography—David Lumsden, Department of Geological Science, Memphis State University, Memphis, TN  
 History of Science—Phillip J. Lorenz, Department of Physics, University of the South, Sewanee, TN

Math and Computer Science—Kirk Menser, Department of Mathematics and Computer Science, Austin Peay State University, Clarksville, TN

Medical Sciences—(tentative)—Robert O'Bannon, Department of Biology, Lee College, Cleveland, TN

Physics and Astronomy—Martha Weller, Department of Chemistry and Physics, Middle Tennessee State University, Murfreesboro, TN  
 Science and Math Teachers—Sarah F. Barlow, Department of Biology, Middle Tennessee State University, Murfreesboro, TN

Zoology I—Gerald L. Vaughan, Department of Zoology, The University of Tennessee, Knoxville, TN

Zoology II—Michele L. Barnard, Department of Biology, Middle Tennessee State University, Murfreesboro, TN."

A motion to approve the list of Section Editors as submitted by the Managing Editor and to grant authority to the Managing Editor to appoint another person if the "tentative" Section Editor does not accept was approved.

In a letter to President Sliger, Managing Editor Kennedy suggested that the Academy apply for second class postage privileges. The consensus of the Executive Committee is that this should be done as soon as possible by the treasurer.

The Executive Committee agreed to consider a decision regarding publication of the *Journal* by an academic press at the April 1995 meeting. The consensus of the committee is that TAS must have a sound financial base when a contract agreement is made with a publishing company.

Collegiate Division Director, Richard Raridon, reported that the activities of the Collegiate Division would be reported following the spring meetings.

As Representative to the American Association for the Advancement of Science (AAAS), Richard Raridon submitted the following report: "I represented TAS as a delegate to Section Y of the AAAS at the annual meeting in San Francisco on 18-20 February 1994. I also attended the delegates' meeting for the National Association of Academies of Science (NAAS). By now you should have received a copy of the Directory and Proceedings for 1993. There are plans to get the publication out more timely in 1994. I also talked with Leslie Simmons and Matthew Rose who represented TAS at the American Junior Academy of Science meeting. They each had good presentations and were worthy ambassadors of TAS. The meeting in 1994 will be in Atlanta and I hope we will have at least two students to represent us there." Note: Dr. Raridon currently represents NAAS on the AAAS Council.

Jack Rhoton, Director of the Tennessee Junior Academy of Science (TJAS), submitted the following report: "The 1994 spring meeting is scheduled for Friday, April 22, at Pearl-Cohn High School in Nashville. A total of twenty-four students have been invited to present their research papers. This year we received forty-four papers from ten schools. Twelve teachers sponsored one or more students.

Two of the 1993 TJAS winners presented their papers at the American Junior Academy of Science Conference in San Francisco, California, during the week of February 17-21, 1994. Matthew F. Rose, Memphis University School, presented a paper entitled "Regional Differences in pH in Rain, Surface, and Tap Water." Leslie Simmons presented her work on "The Effects of Garlic Juice on *Escherichia coli* and *Staphylococcus aureus*."

During the 22 April 1994 meeting, a framed certificate and a small honorarium will be presented to an outstanding secondary science teacher from each region of the three grand divisions of the state. The recipients of this year's awards are as follows: Carl S. Rapp (Chemistry and Physics), University School, East Tennessee State University; Mona S. McPherson (Chemistry and Physics), Hendersonville High

School, Hendersonville; and Bill Byles (Physics), Whitehaven High School, Memphis.

These TAS Distinguished Teacher Awards recognize teachers for their outstanding contribution to science education and for stimulating and inspiring students to an active interest in science. This year the Awards Committee received twenty-two nomination packets."

Meeting Coordinator, Howard Freeman, and Local Arrangements Chairperson, Linda Roberson, discussed plans for the November 1994 annual meeting to be held at David Lipscomb University (DLU), Nashville, Tennessee. Members of the Executive Committee agreed that the program, once compiled by the President-elect, should be printed and distributed from the Secretary's office to insure consistency in format and print quality. At the suggestion of a poster session for the 1994 annual meeting, President Sliger asked David Pitts and Howard Freeman to develop guidelines for poster submissions. It was agreed that members of the Junior and Collegiate Academies also would be invited to submit posters. Information regarding the poster session will be included in the "Call for Papers" which will be mailed to the membership during the summer.

#### OLD BUSINESS

To continue preparations for the joint meeting with the Kentucky Academy of Science (KAS) planned for fall 1995, President Sliger and TAS member Ben Stone, Austin Peay State University, plan to attend the Executive Committee meeting of the KAS in Bowling Green, Kentucky, in August 1994.

The need to continue to seek sources of funds which will keep the Academy financially secure when state funds are unavailable was discussed. The Academy will continue to encourage institutional and corporate memberships to provide stable financial support for the programs of the Academy.

#### NEW BUSINESS

Strategies for increasing membership were discussed. President Sliger encouraged members to inform new faculty members of the activities of the Academy and to encourage them to submit papers for presentation at the annual meeting. The possibility of offering special membership categories for community colleges, small colleges, and industrial members was discussed.

A motion to increase the annual meeting registration fee (currently \$7.50) to \$10 for the 1994 meeting was approved. A motion to require a \$2 student registration fee also was approved.

The Executive Committee discussed the need for a committee to deal with the investment of life membership funds. President Sliger recommended that an investment Advisory Committee, composed of the President, President-elect, and Past President, be established to advise the Treasurer on the investment of funds. The recommendation to establish this as a standing committee will be officially presented to the Executive Committee for action in November.

TAS recently received an invitation from the West Virginia Academy of Science to participate, at no cost, in their effort to establish a new service publication, *AcadSci Abstracts*, designed specifically for the publication of abstracts of state academies of science. As requested, TAS submitted copies of recent editions of the *Journal of the Tennessee Academy of Science* for consideration. *AcadSci Abstracts* is being proposed as a nonprofit organization with an annual publication funded through subscription contracts. The question to participate will be considered by the Executive Committee in the November meeting.

The 22 April 1994 meeting of the Executive Committee of the Tennessee Academy of Science was adjourned by approved motion at 8:40 PM CST.

## TAS EXECUTIVE COMMITTEE MEETING

17 November 1994

The 17 November 1994 meeting of the Tennessee Academy of Science (TAS) Executive Committee was called to order by President Wilburn A. Sliger at 7:15 PM in the Swang Center on the campus of David Lipscomb University (DLU), Nashville, Tennessee. Members present were Wilburn A. Sliger, President; Diane R. Nelson, President-elect; George Murphy, Past President; John Harris, Treasurer; Phyllis Kennedy, Managing Editor; Richard Raridon, Director of Collegiate Division; Jack Rhoton, Director of Junior Academy; John Freeman and D. M. S. Bhatia, Members-at-large. Dr. Larry Elliott and Dr. Darwin Dahl attended as guests from the Kentucky Academy of Science. In the absence of Secretary Sarah Swain, minutes were recorded by Diane Nelson.

#### PLANS FOR JOINT MEETING

For the convenience of guests from the Kentucky Academy of Science (KAS), plans for the first joint meeting of KAS and TAS were discussed at the beginning of the meeting. Meeting dates 16, 17, and 18 November 1995 and alternate dates 2, 3, and 4 November 1995 were approved by vote of the TAS Executive Committee. Final approval requires KAS Executive Committee approval. The campus of Western Kentucky University, Bowling Green, Kentucky, was approved as the location for the joint meeting. Detailed arrangements for the joint meeting will be discussed by TAS and KAS representatives at a 28 January 1995 meeting (place to be determined).

KAS and TAS Section Chairpersons will serve as co-chairs of paper sessions. The Call for Papers will be mailed to both KAS and TAS memberships in late spring 1995. KAS Program Chair Bill S. Bryant, Thomas Moore College, and TAS Program Chair (President-elect) David Kesler, Rhodes College, will arrange titles submitted by Section Chairs. Details for notifying presenters of time and date of his/her presentation will be worked out in the 28 January 1995 meeting. KAS will publish the program for the meeting. TAS will publish TAS abstracts in the April 1996 issue of the *Journal of the Tennessee Academy of Science*.

Pre-registration will be necessary and each academy will handle its own membership registration at separate tables at the meeting. Pre-registration fees will be the same for both academies: Members \$15; Non-members \$25; Students \$3. At the meeting, fees will be as follows: Members \$20; Non-members \$30; Students \$5. Requests for refunds must be submitted in writing. Time and date will be set for separate business meetings and elections of officers.

Costs will be managed as follows: printing and mailing costs will be divided according to the number of mailings per academy. Traditionally, KAS mails programs to pre-registered KAS members only. TAS may consider mailing programs only to those who are pre-registered. Programs for TAS members will be mailed by Treasurer Harris. Additional costs/profits related to refreshments, banquet, exhibitors, etc. will be pro-rated based on the number of members of each academy registered at the meeting.

Because of the historical significance of the first joint meeting, the names of all participants and a group photograph will be published in the journals of both academies.

#### OLD BUSINESS

George Murphy, Past President, reviewed the TAS funding efforts. If the \$19,000 requested for TAS is not included in the Governor's budget, a line item addition to the MTSU budget will be requested.

Dr. Murphy also discussed the possibility of increasing the size of the Executive Committee by adding three more Members-at-large. This would increase representation and broaden the base for decision-

making. Approval for a larger Executive Committee would require constitutional revision. President Sliger appointed a committee to investigate the feasibility of adding board members: Wilburn A. Sliger (chair), D. Bhatia, and George Murphy. Since the addition of board members could possibly increase academy travel expenses, President Sliger appointed a committee to establish travel guidelines for Executive Committee members: John Harris (chair), D. Bhatia, and David Pitts. The committees will report at the April meeting.

Treasurer John Harris reported that, as of May 1994, he is bonded for \$20,000. A motion was passed to invest the Life Member fees in Certificates of Deposit. Treasurer Harris will consult the auditor before investing the money. Investment issues will be brought periodically to the Executive Committee for discussion and advice.

The West Virginia Academy of Science has a service publication, *AcadSci Abstracts*, that abstracts the journals of state academies. The cost to the academy is one subscription per year. A motion was passed to submit a one-year subscription in order to participate in the service.

REPORTS FROM OFFICERS AND DIRECTORS

Secretary Sarah H. Swain had mailed copies of the minutes of the April 1994 Executive Committee meeting to committee members. The minutes were approved as distributed.

Treasurer John Harris submitted an audited report, which appears elsewhere in these proceedings, along with the auditor's report. Both reports were accepted by a motion passed unanimously. Treasurer Harris reported that the Hewlett-Packard Company has donated \$500 to the Academy. President Sliger and President-elect Nelson will respond by thanking the company for their generous donation.

Managing Editor Phyllis Kennedy presented the following report: "Since the 1993 Annual Meeting of the Tennessee Academy of Science, two issues of volume 69 of the *Journal of the Tennessee Academy of Science* have been printed and mailed. Volume 69 issue 1 consisted of 32 pages (eight articles) and was printed at a total cost of \$2651.55 (\$1076.55 after page charges were subtracted). Volume 69 issue 2 consisted of 40 pages (profile of President of TAS, proceedings of TAS in 1993, abstracts of papers presented at 1993 annual meeting, two articles, approved revision of the constitution of TAS, list of new members, obituaries) and was printed at a total cost of \$3183.93 (\$2688.93 after page charges were subtracted). There are currently five manuscripts ready for publication in the next issue."

A motion was passed to combine issues 3 and 4 of volume 69 into one printed issue. An announcement will be published in the *Journal* to encourage members to submit manuscripts since the number of submissions is low at the present time. A motion to approve the use of Arabic numerals (instead of Roman numerals) for the volume number, beginning with volume 70, was approved. The managing editor's report was accepted.

The new Director of the Visiting Science Program, Dr. Linda Cain, was not present and did not submit a report.

The Director of the Collegiate Division, Richard J. Raridon, submitted the following report: "The Eastern Regional Meeting of the Collegiate Division was held at the University of Tennessee at Chattanooga (UTC) on 29 April 1994. Eighteen papers were presented by students representing three schools. Dr. R. Gary Litchford of UTC is the regional sponsor. The Middle Regional Meeting was held at Austin Peay State University (APSU) on 16 April 1994. Twenty eight papers were presented by students representing eight schools. Dr. Fred J. Matthews of APSU is the regional sponsor. The Western Regional Meeting was held at Union University on 30 April 1994. Dr. Wintfred Smith of University of Tennessee at Martin gave the keynote address. Twenty-three papers were presented by students representing six schools. Dr. Charles J. Biggers of the University of Memphis is the regional sponsor." The director's report was accepted.

The Director of the Junior Academy, Dr. Jack Rhoton, presented the following report: "The 1994 spring meeting of the Tennessee Junior Academy of Science (TJAS) was held on Friday, 22 April, at Pearl Cohn Comprehensive High School in Nashville. A total of thirty-four papers was submitted from ten schools and twenty-five were selected by a panel of readers to be presented at the annual meeting. The two top presenters at the annual meeting were Mr. Matthew Rose, Memphis University School, Memphis, Tennessee, and Ms. Molly Davis, Webb School of Knoxville, Knoxville, Tennessee. The title of Mr. Rose's paper was "Circadian and Hormonal Regulation of Growth and Metamorphosis in *Xenopus laevis*." "Micropropagation of African Violets" was the title of Ms. Davis' research. Both papers were published in the 1994 *Handbook and Transactions of the Tennessee Junior Academy of Science*, along with the three other papers of the top five winners. Also, the abstract of each presenter at the annual meeting was printed in the *Handbook*. The *Handbook* was sent to all high school science and math departments as identified in the Tennessee State Department of Education's *Directory of Public Schools, Approved Non-public and Special State Schools*.

Two of the TJAS winners are planning to present their papers at the American Junior Academy of Science Conference in Atlanta, Georgia during the week of 16-21 February 1995. Matthew Rose, Memphis University School, will be presenting his paper (previously described). Phuong Thi Quyle Le, Jackson Central Merry High School, will be presenting her research entitled, "The Sign in Cubic and Quartic Inequality."

Three outstanding science teachers were recognized at the Junior Academy meeting. The three teachers honored were as follows: Bill Byles, Whitehaven High School, Memphis; Mona S. McPherson, Hendersonville High School, Hendersonville; Carl S. Rapp, University School, Johnson City. Each received a framed certificate and check in the amount of \$100. We are indebted to the Tennessee State Department of Education for selecting these outstanding teachers.

Efforts continue to be made to disseminate information more widely concerning TJAS and to bring the program to the attention of more teachers in the state. In addition to disseminating TJAS information via the *Handbook*, the program was also described in *Sciencing Quarterly* and sent to 4200 teachers and schools in the state. Information about TJAS will be shared with teachers during the December meeting of the Tennessee Science Teachers Association. For the first time, the *Handbook* was mailed to all math departments in the state. These efforts should heighten interest in TJAS.

TJAS Request for Funding

Four high school students have requested research grants to assist their efforts in developing research projects for the TJAS program. Each student has presented a sound description of the project: general purpose and goals, statement of need, and the nature of the research. The following students have requested funding:

Student	Title of Research	Amount Requested
Richa Airee Westview High School Martin, TN	Riboflavin and the Photochemistry of Bilirubin	\$300
Emmanuel Chang Martin Luther King Magnet High School Nashville, TN	The Effects of Nitric-oxide Synthase in Hypertension	\$300



Sarah Swain, Secretary; John Harris, Treasurer. A motion to approve the nominees and to present them to the membership at the annual business meeting November 1995 passed.

*Research Committee*--Chairperson Prem Kahlon submitted the following report: "The Research Committee sent 135 letters to science teachers in the state informing them of the availability of funds from the academy for research projects for high school students. Unfortunately, only four applications from two schools were received. In previous years, even with less efforts on the part of the committee, we had received more requests. The Committee is recommending three awards totaling \$1494 (list enclosed). The Committee was concerned regarding the limited number of requests in spite of the large mailing. After some deliberation, the Committee decided to get a list of all private as well as public high schools from the State Department of Education and send letters to all high school science teachers in the state. Hopefully, we will be a better response next year."

#### 1994 APPLICATIONS FOR RESEARCH GRANTS

Student Name	High School	Teacher	Amount Requested	Award
Desiree Demonbreun and Troy Woodard	Martin Luther King Magnet High School Nashville, TN	Paul Elton Bass	\$584	\$584
Troy Woodard	Martin Luther King Magnet High School Nashville, TN	Paul Elton Bass	\$584	\$0
Amanda Whaley	David Crockett Jonesboro, TN	David Boering	\$213	\$213
Vanesa Persson	David Crockett Jonesboro, TN	David Boering	\$697	\$697

The Executive Committee agreed that the concerns regarding participation and use of funds should be addressed again at its April 1995 meeting. The Executive Committee will then respond to the Director of Education Programs, American Association for the Advancement of Science Student Research Grants Program, who has expressed concern about recent low numbers of participants.

*Resolutions Committee*--Chairperson Betty Davis submitted two resolutions that were approved by vote of the Executive Committee and will be presented to the membership for approval at the annual business meeting 18 November 1995.

#### NEW BUSINESS

The need for the development of a procedure/operations manual was discussed. A committee, composed of President Sliger, President-elect Diane Nelson, and Past President George Murphy, was appointed to consider the matter.

The need for a policy to deal with the problem of paper and poster titles that are submitted after established deadlines was discussed. The Committee agreed that titles received after the deadline would not be printed in the program, but could be presented at the meeting. The abstract would be published if the paper, or poster, was presented at the meeting. Other matters related to the method of notifying participants

of acceptance were discussed. Several Section Chairpersons did not notify the individual presenters in their sections.

The establishment of an electronic bulletin board will be discussed at the April 1995 Executive Committee meeting. Electronic addresses of officers and board members will be compiled and distributed to Committee members.

The establishment of different levels of institutional membership will be discussed at the April 1995 meeting of the Executive Committee. Members of the Committee agree that community colleges and their science faculties should be encouraged to join TAS.

A site which can serve as an official depository for the *Journal* and other TAS records is needed. At least one complete set of the *Journal* should be archived at the determined location.

The names of previous TAS presidents will be engraved onto the official TAS block. A committee to study the establishment of a Distinguished Scientist Award for each grand division of the state as well as an award for the top Tennessee scientist will be appointed in the near future. Also, the establishment of new sections (possibly Microbiology, Ethics, Agriculture, others) will be discussed at the April meeting of the Executive Committee.

Future annual meeting sites after 1995 have not yet been determined. The 1996 meeting will be in the East; 1997 and 1998, Middle; 1999, West; 2000, Middle with the Kentucky Academy of Science.

The 17 November 1994 meeting of the Executive Committee of the Tennessee Academy of Science was adjourned by President Sliger at 10:15 PM CST.

#### THE ONE HUNDRED AND FOURTH MEETING OF THE TENNESSEE ACADEMY OF SCIENCE 17-18 November 1994 David Lipscomb University

The annual meeting of the Tennessee Academy of Science was held on the campus of David Lipscomb University (DLU), Nashville, Tennessee, 17-18 November 1994. Dr. Linda Roberson served as chairperson of the Local Arrangements Committee. Dr. Diane R. Nelson, President-elect, served as Program Chairperson. There were 315 persons registered for the meeting, including 118 students.

The Executive Committee meeting was held Thursday evening, 17 November 1994, in the Swang Center, Room 222, on the DLU campus. The general session, business meeting, luncheon, and section meetings were held on the DLU campus on Friday, 18 November 1994. The general session began at 9:00 AM CST with President-elect Diane R. Nelson presiding in the Swang Center auditorium, Room 108. Dr. Harold Hazelip, President of David Lipscomb University, welcomed the members of the Tennessee Academy of Science to the campus. The plenary session, organized by Dr. Rubye P. Torrey, began at 9:15 AM CST. The topic of the session was "Ethics in the Scientific Profession and Technology". The speakers were as follows: Dr. Rubye P. Torrey, Tennessee Technological University, "Ethics in Science and Society: an Overview"; Dr. Jeffrey Kovac, University of Tennessee-Knoxville, "Ethics in Physical Science"; Dr. Michael Davis, Illinois Institute of Technology, "Ethics in Technology and Engineering"; Dr. Donald Gotterbarn, East Tennessee State University, "Computer Ethics"; and Dr. William Ellis, Austin Peay State University, "Ethics in the Life Sciences." The annual business meeting followed immediately with President Wilburn A. Sliger presiding. Entertainment was provided during lunch at the Student Activities Center by the Early Music Consort from David Lipscomb University. Section meetings convened in the Swang Center on Friday afternoon as listed in the printed program.

## ANNUAL BUSINESS MEETING 18 November 1994

President Wilbur Sliger called the annual business meeting of the Tennessee Academy of Science to order and determined by the attendance that a quorum was present. A motion to suspend the reading of the minutes of the 1993 meeting was approved. The Secretary's minutes, published in the April 1994 issue of the *Journal of the Tennessee Academy of Science*, were approved. The Treasurer's report was presented by the Treasurer, Dr. John Harris. Dr. Phyllis Kennedy, *Journal* Managing Editor, provided the Managing Editor's report. The reports of the Director of the Collegiate Division and the Director of the Junior Academy also were presented. No report was available from the Director of the Visiting Scientist Program. Standing Committee reports were presented as follows. The Auditor's report was read. On the recommendation of the Fellows Committee, chaired by Dr. Clay Chandler, and with the approval of the Executive Committee, a motion was passed to designate Dr. Albert Iglar and Dr. Michael Daley as Fellows of the Academy. A motion was passed to accept as new members the individuals whose names are listed in the April 1994 issue of the *Journal*. A motion to suspend the reading of the names was approved. The report of the Research Committee, chaired by Dr. Prem Kahlon, was presented as printed in the minutes of the Executive Committee, 17 November 1994. The Necrology Committee, chaired by Dr. William Solomons, reported the deaths of the following members during the year: Robert Lake Wilson, The University of Tennessee at Chattanooga, TAS past President and Treasurer; Jacob Shapiro, Claude S. Chadwick, and Arnold Smith. President Sliger asked members to stand and observe a moment of silence in memory of these individuals. The membership passed a motion to approve the slate of officers presented by the Nominating Committee and approved by the Executive Committee, as follows: Diane R. Nelson, President; David Kesler, President-elect; Sarah H. Swain, Secretary; John Harris, Treasurer.

The following resolutions, submitted by the Resolutions Committee chaired by Betty Davis, were accepted:

### RESOLUTION OF APPRECIATION

"WHEREAS, the Tennessee Academy of Science is enjoying a most pleasant, profitable, and well organized series of meetings at David Lipscomb 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 David Lipscomb University, composed of Dr. Linda Roberson, chairperson, John Breeden, Phil Choate, Kent Clinger, Joye Hood, Tamara Klingbyll, Larry Latson, Jon Lawrence, Mark Miller, Bill Tailon, and Oliver Yates; Program Chairperson, Dr. Diane R. Nelson; from the recognition given the meetings by the press, television, and radio stations; and from the generous hospitality of the host institution, David Lipscomb University, and its President, Dr. Harold Hazelip;

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

### RESOLUTION REGARDING A COMMEMORATIVE UNITED STATES POSTAGE STAMP RECOGNIZING THE 150TH ANNIVERSARY OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

"WHEREAS the American Association for the Advancement of Science (AAAS) is the oldest and most general scientific society in the United States; and

WHEREAS the present structure of the professions of science and engineering and their many societies, and of science and engineering education, in the United States have in large measure sprung from the AAAS, particularly in its early years; and  
 WHEREAS the existence of whole industries (such as the chemical and electrical and electronic industries) that have changed and improved the standard of life in this country is due again in large measure to the activities initiated and encouraged by the AAAS; and  
 WHEREAS the AAAS will celebrate its 150th anniversary in 1998; and  
 WHEREAS such anniversaries are often and best given public attention and recognition by the issuance of a postage stamp or stamps to honor the event;  
 THEREFORE, be it resolved that the Tennessee Academy of Science strongly urge the Citizens Stamp Advisory Committee to initiate the necessary procedures as soon as possible to assure that a commemorative United States postage stamp (or set or combination of stamps) be issued by the United States Postal Service at an appropriate time and place in 1998 to honor the event."

President Sliger announced that the first joint meeting with the Kentucky Academy of Science will be held in November 1995 at Western Kentucky University, Bowling Green, Kentucky. All TAS members are encouraged to attend and to present papers and posters. A group photograph and the names of the participants attending this historic meeting will be published in both academy journals.

President Sliger expressed appreciation to the Executive Committee for its work during 1994. A plaque was presented to Past President George Murphy in recognition of his dedicated service to the Academy as the 1993 President.

The President's gavel was passed from 1994 President Wilburn A. Sliger to incoming 1995 President Diane R. Nelson who adjourned the meeting at 11:30 AM CST.