

PROCEEDINGS OF THE TENNESSEE ACADEMY OF SCIENCE 2000

SARAH H. SWAIN, SECRETARY TAS

*Middle Tennessee State University, Murfreesboro, Tennessee*TENNESSEE ACADEMY OF SCIENCE
EXECUTIVE COMMITTEE MEETING
14 April 2000

The Executive Committee meeting of the Tennessee Academy of Science (TAS) was called to order by President David J. Wilson at 6:45 PM in the Board Room of the Jack Massey Business Building on the campus of Belmont University, Nashville, Tennessee, 14 April 2000. Members present were Martin Stewart, President-elect; Steven Murphree, Past President; Sarah H. Swain, Secretary; John W. Harris, Treasurer; Jack Rhoton, Director of the Junior Academy (TJAS); Richard Raridon, Director of the Collegiate Division; Karen Kendall-Fite, Member-at-large; Teresa Fulcher, Publicity Chairperson; Michael Redding, Meeting Coordinator.

Minutes of the 18 November 1999 Executive Committee meeting had been mailed to committee members by Secretary Swain. A motion to approve the minutes passed.

REPORTS FROM OFFICERS AND DIRECTORS

President Wilson described the Tennessee Science and Mathematics in Motion (TSMIM) program proposed in December 1999 by the University of Tennessee, Martin Center of Excellence for Science and Mathematics Education (CESME). TAS members David J. Wilson and Jack Rhoton were appointed to the statewide TSMIM Task Force. Based on programs in place in Alabama and Pennsylvania, development and implementation of TSMIM is a cooperative venture of the CESME and the Tennessee Department of Education. A five-year implementation plan proposes the use of laboratory-equipped vans, operated by specially trained teachers, to bring science and math learning experiences to the students of Tennessee. The program would permit every school, no matter how small or remote, to have access to research-based educational experiences using specialized laboratory equipment. CESME is preparing a comprehensive proposal for Fall 2000 submission to the Tennessee Legislature and education-related foundations, agencies, and industries. A motion to remain in contact with the TSMIM Task Force and to form a working committee within TAS was approved.

President Wilson suggested a panel discussion of a statewide mobile science program as a possible plenary session topic for the November 2000 TAS annual meeting. Committee members agreed and encouraged President Wilson to pursue the possibilities for knowledgeable participants.

Tennessee Junior Academy of Science—Director Jack Rhoton presented the following report: "The 2000 spring meeting of the Tennessee Junior Academy of Science (TJAS) was held Friday, April, 14, at Pearl Cohn High School in Nashville. A total

of twenty-five students were invited to present their research papers. This year forty-one students submitted research papers from throughout the state.

"During the April meeting, a framed certificate and a small honorarium (\$100) was presented to an outstanding secondary science teacher from each region of the three divisions of the state. The recipients of this year's awards are as follows: Nancy L. Dickerson (AP Biology and Honors Biology), Tennessee High School, Bristol; Bob Brown (AP Chemistry and General Chemistry), Webb School of Knoxville, Knoxville; Philip R. Chadwick (Biology and Chemistry), Dickson County High School, Dickson. These awards recognize teachers for their outstanding contribution to science education and for stimulating and inspiring students to an active interest in science.

"Two student winners of the 1999 TJAS competition recently presented their research projects at the American Junior Academy of Science (AJAS) in Washington, DC. The AJAS showcases the work of promising future scientists who represent their state Junior Academies from across the nation. Katherine Redding (Cookeville High School) and Kenneth Robertson (Dickson County High School) represented Tennessee and shared their winning work in oral presentations and poster sessions during the AJAS session."

Collegiate Division—Director Richard Raridon presented the following report:

"I represented TAS at the meetings of the American Association for the Advancement of Science (AAAS) and the National Association of Academies of Science (NAAS) held in Washington, DC on February 17–21, 2000. TAS is affiliated with AAAS through representation in Section Y, General Interest in Science and Engineering. Section Y sponsored several symposia at the meeting. NAAS sponsored a workshop at the meeting entitled 'Will Kansas be Cloned? Strategies for Acceptance of Evolution in Public School Curricula'.

"Dr. Leslie Sue Liebermann of Florida is the incoming President of NAAS and the President-elect is Howard Pitkow of Pennsylvania. Gloria Takahashi of California retired after nine years as Director of the American Junior Academy of Science. The new Director is Joan Messer of Mississippi.

"The NAAS web site is at astro.physics.sc.edu/NAAS/NAAS.html. It has links to many state academies, including Tennessee.

"There were two students representing Tennessee at the American Junior Academy of Science program. Next year's meeting will be February 15–20, 2001 in San Francisco, CA."

Director Raridon added that no NAAS Directory has been published during the last two years. Information included in the past in a published Directory is now available on the NAAS web

site. Also, Michael Redding will represent TAS at AAAS and NAAS meetings next year.

Past President Steven Murphree also is serving as Local Arrangements Chair for the 2000 annual TAS meeting to be held at Belmont University, Nashville in November. He reported that plans were underway for meeting spaces for the plenary session and paper sessions. Also, the program can be printed at Belmont again this year, if necessary. Chairman Murphree will provide a motel list for publication in the Call for Papers. John Harris, Treasurer, added that he plans to mail out a revised membership renewal form that includes permission for the member to be listed on the TAS web site.

Meeting Coordinator—Michael Redding reported he is updating the list of exhibitors and commercial vendors who might be interested in exhibiting at the TAS annual meeting. He noted that competition for our annual meeting date made it difficult for vendors to participate at TAS. A \$50 fee is charged to all commercial vendors. Other groups, such as programs on the host campus, may exhibit free of charge.

Michael Redding proposed that winners of the Collegiate Division competition be invited to present papers or posters at the TAS annual meetings. The recognition should encourage future membership and participation. A motion to accept the proposal was approved. Collegiate Division Director Raridon will contact sponsors of the three Collegiate Divisions to inform them of the plan. Treasurer Harris noted that TAS honorary memberships are now being awarded to the Collegiate Division winners.

President-elect Martin Stewart presented a program proposed for the joint TAS/KAS meeting to be held at Middle Tennessee State University in Murfreesboro, November 29–December 1, 2001. In lengthy discussion he detailed the difficulties encountered in arranging meeting details thus far. A motion to approve the program as a framework for planning, and to propose a deadline to KAS for accepting or rejecting the plan, was approved.

Treasurer—John W. Harris presented the following report and budget:

CASH BALANCE—JULY 1, 1999	61,194.15
RECEIPTS	
Membership Fees	6,655.00
Institutional Dues	6,000.00
Library Subscriptions	780.00
Interest Earned, Firststar Bank	341.89
Dividends Earned, J. C. Bradford	
Money Mkt Fund	1,272.60
Contributions	95.00
Annual Meeting Registration and Luncheon Fees	2,740.00
Life Membership Trust Fund	431.25
TJAS Trust Fund	2,741.98
TOTAL RECEIPTS	21,057.72
TOTAL CASH AVAILABLE	82,251.87

DISBURSEMENTS	
Tennessee Junior Academy of Science	9,758.63
Annual Meeting	993.73
Treasurer's Expenses	1,246.54
Secretary's Expenses	587.82
Security Bond	100.00

Travel	238.93
Journal	216.48
Dues/Fees	20.00
Auditor's Fee	990.00
AAAS Meeting Expenses	390.00
Plaques and Awards	324.92
Science Fairs	1,224.00
Computer	549.99
Checking Account Adjustment	87.20
TOTAL DISBURSEMENTS	16,728.24

CASH BALANCE - April 10, 2000 65,523.63

Receipts	21,057.72
Disbursements	16,728.24
Cash Increase	4,329.48

BREAKDOWN OF HOLDINGS

US Postal Service, Lawrence, KS	500.00
TTU Account	137.13
Checking Account, Firststar Bank	4,000.54
Savings Account, Firststar Bank	19,826.36
Money Market Fund, J. C. Bradford	41,059.60

TAS HOLDINGS as of April 10, 2000 65,523.63

TJAS TRUST FUND (Vanguard Star Fund)

(8,453.845 shares owned as of 03/31/00)	
Account Value as of 09/30/99	140,937.85
Deposits (Capital Gains Reinvested)	
12/31/99	3,133.70
Disbursements (Dividend Distributions)	
12/31/99	2,741.98
Account Value as of 12/31/99	145,863.67
Deposits (Capital Gains Reinvested)	
3/24/00	7,929.98
Account Value as of 03/31/00	151,408.36

LIFE MEMBERS TRUST FUND (J. C. Bradford)

(15 3-year US Treasury Notes @ \$1000 ea., Date of Issue—11/15/97)	
Value of Notes as of 09/30/99	15,046.95
Disbursements (Interest Income)	
11/15/99	431.25
Estimated Annual Income	862.00
Value of Notes as of 12/31/99	14,962.50
Value of Notes as of 03/30/00	14,948.40

TOTAL VALUE OF HOLDINGS

as of April 14, 2000 231,880.39

A motion to accept the report passed. Treasurer Harris presented the 2000–2001 budget recommendations based on past patterns of income and expenses. The following budget for 2000–2001 was approved:

RECOMMENDED BUDGET FOR 2000–2001

	Projected Income (00–01)
Membership Dues	10,000.00
Institutional Members	6,000.00
Annual Meeting Fees	4,000.00
Journal Page Charges	3,000.00

Library Subscriptions	2,500.00
Interest/Dividends Earned	2,000.00
Exhibitor's Fees	200.00
Contributions	200.00
TJAS Trust Fund	4,000.00
Life Members Trust Fund	850.00

TOTAL 32,750.00

	Account Approved (00-01)
Secretary	600.00
Treasurer	1,000.00
Jr. Academy	10,000.00
Journal	10,000.00
Annual Meeting	4,000.00
Collegiate Division	1,200.00
Travel	800.00
AAAS Meeting	1,000.00
Audit Fee	1,000.00
Annual Dues/Fees	150.00
Insurance/Security	100.00
Plaques/Awards	300.00
President	50.00
Web-site Maintenance	150.00
Publicity	400.00
Science Fairs (VSP)	2,400.00

TOTAL 33,150.00

Treasurer Harris reported that overall membership was down due to poor attendance at the 1999 annual meeting in Memphis. The University of Tennessee-Memphis and St. Jude Hospital established a joint institutional membership. Library subscriptions are down, but expected to rebound when *Journal* publication is back on schedule. Annual meeting expenses for 1999 are expected to increase when bills for food costs are received. A new computer was purchased to replace the outdated one used by the Treasurer. The Executive Committee discussed converting the money market fund to treasury bills. A motion to use one-half of the money market funds to purchase treasury bills passed. Following discussion on the need to offer science fair awards at six regional science fairs across the state, and to increase the award given, a motion was made to increase the dollars appropriated to \$400 per fair for six fairs. The motion passed. A motion to accept the revised budget passed.

Managing Editor—M. Gore Ervin, submitted the following report:

"The final proofs for Volume 73(1-2) (January-April 1998) have been returned to Allen Press and billings will go out next week. The abstracts from the spring 1998 Collegiate meetings have been located and will be published with six manuscripts as Volume 73(3-4). Volume 74(1-2) contains four manuscripts and the abstracts of the fall 1998 meeting. Volume 74(3-4) contains six manuscripts and the Collegiate abstracts from the spring 1999 meeting. The abstracts from the fall 1999 meeting are being typed and edited and will be published with three manuscripts as Volume 75(1-2)."

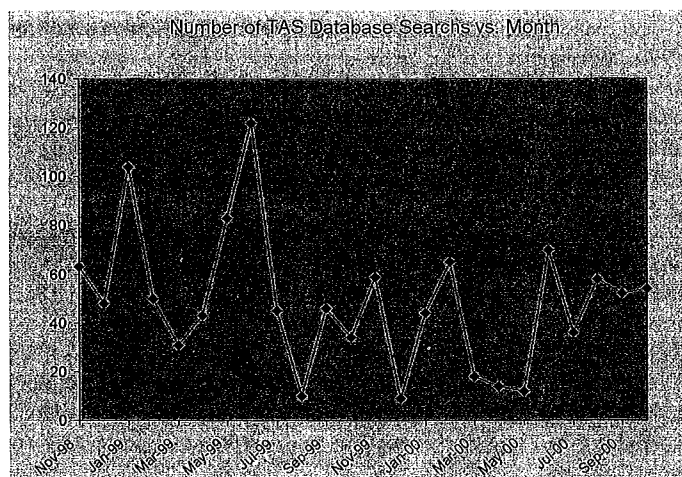
Editor Ervin was unable to attend the Executive Committee, but sent the above report along with a memo thanking TAS for the purchase of a scanner for the editor's use. Editor Ervin suggested that efforts be made to encourage electronic abstract sub-

mission in a uniform format to facilitate timely *Journal* publication in the future.

Electronic Communication—Director David Kesler submitted the following report:

"A major activity has been promoting and monitoring the Networks Program. There are 462 records in the web-based TAS membership database. Of these, only 162 have agreed to serve as Networks Scientists. I would like to see this proportion increased to provide a wider base of experts for the Networks Program. Given that this program is greatly under-utilized, the time commitment to being a Networks Scientist is very small. (A graph showing the number of searches per month since November 1998 was provided in the report. January 1999 and June 1999 were the most active months with over 100 searches each.)

"Another activity has been updating information on the TAS web site: <http://tas.rhodes.edu/tas.htm>. Any suggestions for this site will be gratefully received."



REPORTS FROM COMMITTEES

Publicity Committee—Chair Teresa Fulcher was in attendance and reported that *The Tennessee Conservationist* will publish an article on TAS in its July/August 2000 issue. The article includes a brief history of the organization and some important work of the early Academy. *The Tennessee Conservationist* is a bimonthly publication of the State of Tennessee Department of Environment and Conservation. Over 100,000 copies are distributed to guests of Tennessee state parks and subscribers. Chairperson Fulcher also reported that the TAS information brochure has been completed. Copies were distributed to members of the Executive Committee in attendance. Additional members are needed on the Publicity Committee.

Industry and Government Committee—Chair Ted Lundy requested via memo that Lee Martin, Executive Director of TCRD, be approved as a member of the selection committee for the TAS Distinguished Industrial Scientist Award. A motion to approve the request passed. Chairperson Lundy also asked to be relieved of his duties as Chair of the Industry and Government Committee. President Wilson will seek a replacement.

OLD BUSINESS

The 2000 annual meeting will be held on the campus of Belmont University in Nashville, November 16-17. Plans for the joint meeting with KAS are tentatively arranged for November 29-December 1, 2001 on the campus of Middle Tennessee State

University in Murfreesboro. Plans for the 2002 meeting are incomplete, but the meeting is expected to be held in the eastern part of the state.

NEW BUSINESS

The Executive Committee discussed TAS involvement in state science fairs. The Committee recognized the need for coordination with science fair directors and the designation of TAS fair liaisons for continuity and uniformity. A motion was made to identify TAS liaisons who would act on behalf of TAS, and who would contact fair directors so that judging and prize awarding can be coordinated. The motion passed. The following were designated by President Wilson as science fair liaisons (most are already involved in science fairs in their region): David Wilson, Nashville; Michael Daley, Memphis; Jack Rhoton, Johnson City; John Harris, Cookeville; Teresa Fulcher, Knoxville. A liaison is needed for the Chattanooga area and will be appointed by President Wilson. Publicity Chair Teresa Fulcher will design a certificate to accompany the monetary award. She will present the certificate to the Executive Committee for approval at the November Executive Committee meeting.

Past President Steve Murphree reported that "Sciences Next Wave", a web magazine that offers career development services, such as grant writing for non-tenured faculty, has solicited a relationship with TAS. A motion to take no action was approved.

Linda Jordan, Science Consultant, State of Tennessee Department of Education and TAS Executive Committee member hopes to facilitate a joint meeting of TAS and the Tennessee Science Teachers Association for the year 2003 or later.

President Wilson adjourned the 14 April 2000 meeting of the Tennessee Academy of Science Executive Committee at 10:15 PM CST.

EXECUTIVE COMMITTEE MEETING

16 November 2000

The Executive Committee meeting of the Tennessee Academy of Science was called to order by President David J. Wilson at 7:15 PM in the Board Room of the Jack Massey Business Building, Belmont University, Nashville, Tennessee, 16 November 2000. Members present were Martin V. Stewart, President-elect; Steven Murphree, Past President; Sarah H. Swain, Secretary; John W. Harris, Treasurer; M. Gore Ervin, Managing Editor; Jack Rhoton, Director of the Tennessee Junior Academy of Science (TJAS); David Kesler, Director of Electronic Communications; Mike Redding, Meeting Coordinator; Karen Kendall-Fite, Member-at-large; Teresa Fulcher, Publicity Committee Chair; Ted Lundy, Industry/Government Committee Chair; Cindi Smith-Walters, Education Committee Chair; Andrew Sliger, Financial Oversight Committee Chair; Linda Jordan, State Science Supervisor, Tennessee Department of Education.

Minutes of the April 2000 Executive Committee meeting had been sent to committee members by Secretary Swain. A motion to approve the minutes passed.

REPORTS FROM OFFICERS AND DIRECTORS:

Treasurer—John W. Harris presented the following 16 November report:

CASH BALANCE—July 1, 2000 63,894.35

RECEIPTS

Membership Fees	4,430.00
Institutional Dues	5,000.00

Library Subscriptions	90.00
Interest Earned, FirstStar Bank	89.11
Dividends Earned, PaineWebber	623.74
Contributions	130.00
Annual Meeting Registration/Lunch	2,135.00
Page Charges	2,880.00
Visiting Scientist Program	1,865.00
Adjustment to Checking	160.99
TOTAL RECEIPTS	17,403.84

TOTAL CASH AVAILABLE 81,298.19

DISBURSEMENTS

Journal	10,470.07
Tennessee Junior Academy of Science	10,323.36
Annual Meeting	28.05
Treasurer's Expenses	443.78
Secretary's Expenses	763.44
Travel	34.60
TOTAL DISBURSEMENTS	22,063.30

CASH BALANCE - November 15, 2000 59,234.89

Receipts	17,403.84
Disbursements	22,063.30
Cash Decrease	-4,659.46

BREAKDOWN OF HOLDINGS

US Postal Service, Lawrence, KS	720.37
TTU. Account	911.86
Checking Account, FirstStar Bank	9,476.28
Savings Account, FirstStar Bank	5,879.53
Money Market Fund, J.C. Bradford	42,246.85

TAS HOLDINGS as of November 15, 2000 59,234.89

TJAS TRUST FUND (Vanguard Star Fund) (8453.845 shares owned as of 09/30/00)

Account Value as of 03/31/00	15,1408.36
Deposits (Capital Gains Reinvested)	0.00
Disbursements(Dividends 06/23/00)	2,367.08
Account Value as of 06/30/00	148,872.21
Account Value as of 09/30/00	156,480.67

LIFE MEMBERS TRUST FUND (PaineWebber)

(15 3-year US Treasury Notes @ \$1000 ea.,

Date of Issue—11/15/97)

Value of Notes as of 03/31/00	14,948.40
Disbursements (Interest Income) 05/15/00	431.25
Estimated Annual Income	862.00
Value of Notes as of 06/30/00	14,967.15
Value of Notes as of 09/30/00	14,990.70

TOTAL VALUE OF HOLDINGS

as of November 15, 2000 230,706.26

A motion to accept the report passed.

Managing Editor—Gore Ervin discussed the following report:

"All outstanding issues of the *Journal* are scheduled for publication and distribution to the membership in November–December 2000 (Volume 74, 1999) and January 2001 (Volume

75, 2000). The spring 1999 issue (74:1–2) contains 3 manuscripts and is scheduled for distribution to the membership on November 27. I have the Galley Proofs for Volume 74:3–4, which contains 10 manuscripts, and I am awaiting the return of author comments. This issue should be published in December 2000. Copy for the 2000 issues (Volume 75) has been assembled and proofed, and both will be submitted by the end of November 2000. Volume 75:1–2 contains 3 manuscripts and Volume 75:3–4 contains six.

“There were nine new manuscripts submitted in 1999 and six new manuscripts have been submitted thus far in 2000. Of these manuscripts, five have been accepted and are scheduled for publication, eight have been returned to the authors for revision, one remains in review, and one was withdrawn after the first review.

“Assembly of the first 2001 issue (Volume 76:1) is underway. Due to the availability of submitted abstracts in electronic format, the complete text for almost all submitted abstracts has been compiled into an editable text. I would like to acknowledge the hard work of Dr. Martin Stewart and the Section Chairs for making this possible. In addition Dr. David Kesler is to be acknowledged for posting the abstracts on the Website prior to the meeting.

“One goal for the *Journal* during 2001, pending Executive Committee approval, will be to return the *Journal* to a quarterly rather than semiannual publication schedule. This would include four issues published in January, April, July, and October. Another goal will be to decrease the time interval between manuscript submission and return of a decision to the author. To this end I am revising and expanding the ‘Instructions for Authors’ for manuscript submission. Specific guidelines for submission, including ‘electronic submission’, and examples of *Journal* format will be published in the *Journal* and made available on the Website. Finally, new features, such as a ‘Books and other media’ review section, will be included in upcoming issues.”

Editor Ervin was commended for reviving the *Journal*. The Executive Committee expressed appreciation for his efforts to return the *Journal* to a timely publication schedule. A motion to accept the report was approved.

Junior Academy of Science—Director, Jack Rhoton, presented the following report:

“The 2000 spring meeting of the Tennessee Junior Academy of Science was held on Friday, April 13 at Pearl Cohn Comprehensive High School in Nashville. A total of forty-two papers were submitted. Twenty-six of these papers were selected by a panel of readers for presentations at the annual meeting. The two top presenters were Katherine S. Redding, Cookeville High School, Cookeville, and Kenneth Robertson, Dickson County High School, Dickson, Tennessee. The title of Ms. Redding’s paper is “Hsc-70: Induced Expression in Maize, Phase II.” Mr. Robertson’s paper is entitled, “Study of Polyphosphate Hydrolysis Using 31P NMR”. Both papers were published in the 2000 Handbook and Proceedings of the Tennessee Junior Academy of Science, along with six other papers of the top eight winners. (Ms. Redding and Mr. Robertson also presented their research at the American Junior Academy of Science (AJAS) during the February 16–20, 2000 meeting in Washington, DC) Also, an abstract from each presenter at the annual meeting was printed in the Handbook. The Handbook was sent to all high school science departments as identified in the Tennessee State Department of Education’s Directory of Public Schools, Approved Non-Public and Special State Schools.

It is customary each year for the Tennessee Academy of

Science to recognize three outstanding teachers, one from each region of the three grand divisions of the state. During the spring 2000 TJAS meeting, a framed certificate and a small honorarium (\$100) was presented to the following recipients: Nancy Dickerson (AP Biology and Special Topics in Science), Tennessee High School, Bristol; Robert Brown (Biology and Chemistry), Webb School of Knoxville, Knoxville; Phil Chadwick (Chemistry and Physics), Dickson County High School, Dickson.

Pat Carpenter has been named the recipient of the 2000 Tennessee Academy of Science Distinguished Secondary Science Teacher Award. Carpenter, who is a middle school science teacher in Greene County, Tennessee, will receive the award on November 17, 2000, during the annual meeting of the Tennessee Academy of Science at Belmont University in Nashville. Ms. Carpenter teaches seventh and eighth grade science at McDonald School in Mohawk, Tennessee. Begun in 1997, the award program is designed to recognize individuals who demonstrate excellence in science teaching. This award is given annually to one Tennessee science teacher who has made significant contributions to the teaching of science. In addition to the recognition, Carpenter will receive from TAS a \$500 check, a plaque, and certificate. (A press release of Ms. Carpenter’s award has been prepared and submitted to local newspapers.)

The criteria for the award are based on the candidate’s education record, involvement in professional organizations, special awards or special recognitions, contributions to the teaching profession, and letters of support.

Past recipients of the TAS Distinguished Science Teacher Award are:

Alan Redmond (1997), John Sevier Middle School, Kingsport, TN

Linda Phelps (1998), Camden Central High School, Camden, TN

Jane Whitaker (1999), Lenoir City High School, Lenoir City, TN

Pat Carpenter (2000), McDonald School, Mohawk, TN”

TJAS Director Rhoton also submitted the 2000–2001 requests for TJAS funding to support high school student research projects:

Twenty-one high school students have requested research grants to assist their efforts in developing 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 as of November 16, 2000;

Student	Title of Research	Amount
Bonnie Adams	Analysis of Owl Pellets	\$200.00
Chelsea Ashworth	Genotype Analysis of Wild Type and Mutant Mice	\$296.75
Evan Buckner	The Effect of Infrons on Cell Growth	\$300.00
Eric Chang	Mathematical Modeling of Bioturbation and Aeration of Lake and Reservoir Sediments	\$300.00
George Datskos	The Chaos Theory: Incorporating the Koch Snowflake	\$150.00
Justin Davis	The Effects of Music on Creativity and Intelligence	\$137.95
Brandon Dennis	The Effects of Music on Creativity and Intelligence	\$137.95
Kayla Hudson	Radon Levels in Homes	\$ 98.00

Brad Ingram	Rainfall and Sport Fish Populations	\$148.00
Matt Kerske	Serratia Transformation	\$139.57
Andrew Kholler	The Chaos Theory: Incorporating the Koch Snowflake	\$150.00
Lakshmi Krishman	Response of Owl Calling to Temperature Changes	\$150.00
Kayleigh A. Morgan	Exploring pGLO Green Fluorescent Protein	\$288.90
Katherine Redding	Hsc-70: Induced Expression in Maize, Phase III	\$300.00
Brian Reed	Petroleum Cheaters	\$300.00
Kimberly Reynolds	Radon Levels in Homes	\$ 98.00
Kenneth Robertson	The Study of Polyphosphate Hydrolysis Using 31P NMR, Phase II	\$200.00
Mark Robinson	A LEGO robot for Hydroponic Harvesting	\$300.00
Candra Sarvage	Response of Owl Calling to Temperature Changes	\$150.00
Shane Sheridan	Rainfall and Sport Fish Populations	\$148.00
Ethan Stranch	Serratia transformation	\$139.57
TOTAL		\$4,132.69

A motion to approve the funds requested passed.

Director Rhoton plans to survey TJAS research students to learn if they chose science as a career.

Electronic Communications—Director David Kesler discussed the following report:

“The TAS on-line membership database has grown to 515 names. There are 190 individuals who have agreed to serve as Networks Scientists. This is a 17% increase from the number of Networks Scientists since April 2000.

“There have been 491 searches of the TAS database between November 1999 and October 2000 (monthly mean \pm SD = 40.4 \pm 21.5), and there has been no long-term trend in use per month.

“The program and abstracts for this year’s annual meeting were posted on the TAS web site (<http://tas.rhodes.edu/tas.htm>) in advance of the meeting. Other posted information included names and contact information of section chairs, motel information, press release and registration form, a link to Belmont for maps, and all of the abstracts in html and pdf format.”

Director Kesler reported there had been no significant increases in the number of responses to the TAS Networks Program during the past year. He informed the committee that meeting abstracts would be published on the TAS website this year. A motion to accept the report was approved.

President Wilson recommended the membership renewal form be changed so that a person must request not to be listed as a participant in the Networks Program. A motion to that effect was approved.

Collegiate Division—Director Richard Raridon submitted the following report: “The Western Regional Meeting was held at Christian Brothers University in Memphis on March 18, 2000. Thirty-three papers were presented by students from seven schools. The Eastern Regional Meeting was held at Carson-Newman College on April 22, 2000. Ten papers were presented by students from four schools. The Middle Regional Meeting was held at Austin Peay State University in Clarksville on April 22, 2000. Thirteen papers were presented by students from three schools. The regional sponsors are Dr. Fred Matthews, Austin

Peay State University, Dr. Gary Litchford, The University of Tennessee, Chattanooga, and Dr. Charles Biggers, The University of Memphis.” A motion to accept the report was approved.

John Harris reported that Collegiate Division winners were awarded one-year TAS memberships and were invited to attend the annual meeting. He would like to know how many responded.

Visiting Scientist Program—Director Michael L. Daley, submitted the following report for the “The Visiting Scientist Program needs Area Coordinators. While it is difficult to get into the schools to make visits, it is possible to be involved in judging science fairs. The program needs coordinators for Nashville, Chattanooga, and Martin areas.”

REPORTS FROM COMMITTEES

Long-range Strategic Planning Committee—Chair George Murphy submitted the following report:

“For the most part, recommendations of the 1997–98 report are being implemented. There may be need for some fine tuning, as it has been suggested from previous committee chairs that perhaps the “financial advisory committee” might be better as an advisory group to the board but having no seat on the executive committee. An alternative might be to have a financial advisor to the board who could lend expertise in long range financial planning. A second issue involves the perceived importance/value of TAS publications/presentations in tenure/promotion decisions at our institutions in Tennessee. We all hear a lot of conflicting reports. Perhaps some descriptive information about the *Journal*/annual meeting along with a request for feedback on current perceptions could be sent to deans of science and engineering colleges in an effort to determine acceptance level.”

Discussion of the Strategic Planning Committee report included the clarification by the current chair of the Financial Oversight Committee, Andrew Sliger, who agreed that it is unnecessary for the Financial Oversight Committee chair to regularly attend Executive Committee meetings. The Executive Committee agreed. Also, Andrew Sliger offered to discuss the second concern in the report with members of the Tennessee Science Chairs Association. A motion to accept the report passed.

Audit Committee—Chair Eugene Kline submitted the following report: “The Audit committee consisting of Dr. David Yarbrough, Dr. Robert Martin and myself, as Chairman, had an audit prepared as required by the Academy for the year ending June 30, 2000. The auditor examined the receipts and disbursement records and found everything in order and the accounting system well maintained. The committee recommends approval of the financial report based upon this audit. The committee also wishes to commend Dr. John W. Harris, Treasurer, for his efforts and meticulous job in keeping good financial records for the Academy.”

The auditor’s report follows: “I have examined the receipts and disbursements records of the Tennessee Academy of Science for the fiscal year ended June 30, 2000, and in my opinion the attached cash Receipts and Disbursements Statement correctly reflects the cash position of the organization at June 30, 2000. The entire accounting system is well maintained and to be commended. I have 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 December 15, 2000.”

TENNESSEE ACADEMY OF SCIENCE

Cash Receipts and Disbursements
For Year Ended June 30, 2000

Receipts:

Membership dues	\$14,425.00
Capital gains—Vanguard	11,063.68
Dividends—Vanguard	5,109.06
Interest Earned	3,134.82
Annual Meeting Fees	2,740.00
Library Subscriptions	810.00
Journal Page Charges	360.00
Contributions	115.00
Misc.	50.00
Total Receipts	\$ 37,807.56

Disbursements:

Tennessee Junior Academy of Science	\$14,828.10
Science Olympiad	2,224.00
Treasurer's Office Expense	2,046.23
Annual Meeting	993.73
Accounting Fee	990.00
Printing and Publication	652.05
Secretary's Office Expense	587.82
AAAS Expenses	390.00
Plaques	324.92
Board Meeting	223.61
Annual Dues and Fees	142.50
Insurance Bond	100.00
Misc.	125.26
Total Disbursements	\$ 23,628.22

Cash Increase from Operations	\$ 14,179.34
Cash Balance, July 1, 1999	\$225,701.16
J. C. Bradford—Unrealized Loss	[89.10]
Vanguard—Unrealized Loss	[11,746.98]
Cash Balance, June 30, 2000	\$228,044.42

TENNESSEE ACADEMY OF SCIENCE

Summary of Cash Accounts
June 30, 2000

Firststar Bank

Cookeville, TN 38501

NOW Account	\$ 5,060.52
Savings Account	17,320.11
Total	\$ 22,380.63

Tennessee Technological University

Cookeville, TN 38505

Agency Account	36.89
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Vanguard Financial Center

Valley Forge, PA 19482-2600

Vanguard Star Fund	148,872.21
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US Postal Service

Lawrence, KS

Postage Account

164.43

J. C. Bradford & Co.

Cookeville, TN 38501

Cash Account	\$ 41,623.11
United State Treasury Note	14,967.15
Total	56,590.26
Cash Balance, June 30, 2000	\$228,044.42

A motion to accept the auditor's report was approved.

Fellows Committee—Chair Charles McGhee submitted the following recommendation on behalf of the committee: "The Fellows Committee received the nomination of Dr. Sarah Follis Barlow for consideration as a Fellow of the Tennessee Academy of Science. Dr. Barlow has been a member of the Academy since 1979. She is a Life Member of the TAS. Her accomplishments include serving as Chair of the Science and Mathematics Teachers Section in 1994, serving on the Membership Committee from 1992 to 1995, serving as Editor of the Science and Mathematics Teachers Section from 1991 to the present, and serving on the TAS Host Committee on Registration in 1986 and 1991. Dr. Barlow has presented six presentations at the annual meetings of the TAS, and has five publications in the TAS Journal. It is the opinion of this committee that Dr. Sarah Barlow has served the Tennessee Academy of Science long and well, and that she will continue to do so in the future. We, therefore, recommend that she be given full and careful consideration for Fellow of the Academy."

Industry and Government Committee—Chair Ted Lundy discussed his report which is summarized in this text. Upon his June 30, 2000 retirement from Tennessee Technological University (TTU), Chair Lundy made arrangements with Dr. Ken Currie, Interim Director, Center for Manufacturing Research (CMR), TTU, to continue CMR office support for the year 2000 activities leading to the identifying and awarding of the 2000 Tennessee Industrial Scientist of the Year. Sue Richardson handled the mass mailing to Tennessee industries asking for and receiving their nominations. Suzanne Henry assisted with the design and preparation of the plaques for the awards and Darlene Wiegand gave general oversight to the efforts, including its finances. Chair Lundy assumes that Dr. Currie and the CMR also supported faculty and student travel for the TAS annual meeting, as in the past. Copies of this year's nominations were sent to the two previous winners, to H. Lee Martin (representing state government), to several past TAS Presidents, the current TAS President, and to the TAS President-elect for evaluation and ranking. Since two nominees received equal recommendation, it was agreed that co-winners would be announced.

The co-winners of the 2000 Tennessee Industrial Scientist Award are Dr. Kenneth W. Tobin, Instrumentation and Controls Division, Oak Ridge National Laboratory, Oak Ridge and Dr. Ronald Nutt, Senior Vice President and Technical Director, CTI, Inc., Knoxville, TN. Both are expected to be present at the TAS annual business meeting, Friday, November 17, 2000 to receive their plaques.

A motion to accept Chair Lundy's report passed.

Resolutions Committee—Sallie Noel, Chair, submitted a Resolution of Appreciation acknowledging the individuals for making the 110th TAS meeting such a great success. The Executive

Committee approved the resolution as written, pending reading and approval by the membership during the 17 November 2000 annual business meeting.

Publicity Committee—Chair Teresa Fulcher discussed the following report:

“Publicity efforts regarding the 2000 meeting of the TAS include the following. Publicity Packets including a press release, biographical information on presenters, information on the TSMIM program, a TAS brochure, and a copy of the article from *The Tennessee Conservationist* were sent to: Greg Pillon—information services at Belmont University; Diane Long at *The Tennessean*; Doug Brumley at *The Nashville Scene*; Matthew Zeilkind at TV Channel 2; News Director at TV Channel 4; Mike Cutler at TV Channel 5; WPLN Radio; *The Murfreesboro Daily News Journal*; *The Knoxville News Sentinel*. Letters also were mailed to the directors or superintendents of all public school systems in Tennessee (150 total). In addition, TAS President Dave Wilson sent personal letters along with press information to 85 individuals for a total of 235 letters announcing the meeting.

“The Publicity Committee has developed a prototype certificate to be used for the school science fair awards.

“The Publicity Committee would like to propose a group photo to be taken at the 2001 TAS meeting in Murfreesboro.”

Education Committee—Recently appointed Chair Cindi Smith-Walters invited ideas from the Executive Committee about the role of the Education Committee. Secretary Swain will locate the original committee charge and work with the Chair to clarify the issue by the April 2001 Executive Committee meeting. Chair Smith-Walters plans to communicate with the State Science Supervisor and others who impact education in the state.

Nominating Committee—Chair Steve Murphree presented the following slate of officers for 2001: Jack Rhoton, President-elect (who would also continue as Director of TJAS), Sarah H. Swain, Secretary, and John W. Harris, Treasurer. The slate was approved.

Necrology Committee—Chair Alexander Wells reported no known deaths within the TAS membership. (Two deaths have been reported since the annual meeting: Dr. Bernard Benson, University of Tennessee, Chattanooga and Dr. Howard E. Smith, Vanderbilt University.)

Membership Committee—No report was submitted by this committee.

OLD BUSINESS

The second joint meeting of the Kentucky Academy of Science (KAS) and TAS is planned for November 8–10, 2001 on the Middle Tennessee State University (MTSU) campus in Murfreesboro, TN. President-elect Martin Stewart has reserved meeting rooms on the MTSU campus and also has made arrangements with local hotels. President-elect Stewart reported that specific responsibilities of the two academies remain unresolved. Meeting Coordinator Mike Redding volunteered to contact KAS officers to work out details.

Plans are being made for the 2002 TAS annual meeting to be held at East Tennessee State University (ETSU), Johnson City,

TN. Jack Rhoton will request a formal invitation from the President of ETSU for the 2002 TAS annual meeting. The invitation will be sent to TAS 2001 President, Martin Stewart, at MTSU.

Meeting Coordinator Mike Redding discussed the problems related to vendors at the annual meetings. Response from vendors has been poor for several consecutive years with none accepting the invitation this year. Meeting Coordinator Redding recommended that no vendors be contacted for future meetings. The Executive Committee agreed with the recommendation. Also, Meeting Coordinator Redding volunteered to outline the duties of the Meeting Coordinator in detail for the benefit of all those involved in planning meeting details.

After some discussion related to the handling of nominations for TAS awards, a motion to make the Nominating Committee responsible for identifying and collecting materials for potential award recipients, and for reviewing guidelines, passed. Present Nominating Committee Chair, Steve Murphree, will coordinate the effort.

NEW BUSINESS

The Meeting Coordinator will assume the responsibility of receiving the names of student presentation/poster winners from judges, compiling the list of winners, transmitting the list to Editor Ervin for publication, preparing certificates, and distributing certificates to the winners. A motion stating the above responsibilities was approved.

Andrew Sliger made a request on behalf of the Tennessee Science Chairs Association (TSCA). The TSCA would like to recognize the top male and female winners at the TJAS annual meeting with an award, at no cost to TAS. A motion to approve the request passed.

Managing Editor Ervin requested support and funds to include pictures and biographies of TAS award winners in the *Journal*. Executive Committee members supported the idea and approved the motion that funds to cover the additional cost for pictures be provided.

State Science Supervisor, Linda Jordan, asked the TAS Executive Committee to consider the feasibility of funding undergraduate research in teacher education programs. A motion to ask the Education Committee to study the issue, establish guidelines and report to the Executive Committee, was approved.

Dr. Jordan also asked TAS Executive Committee members to review the proposed state curriculum standards for high school science courses in chemistry and physical science. Members were asked to review the proposals for errors or omissions and to send comments or suggestions to the respective standards committee chairpersons by December 15.

After discussing nominees, the Executive Committee voted to award the TAS Distinguished University Scientist Award to Dr. Thomas E. Hemmerly, Professor of Biology, Middle Tennessee State University. Dr. Hemmerly will be recognized during the annual business meeting, 16 November 2000.

A location for the 2003 annual meeting remains undetermined. A location is needed in the middle region of the state for the meeting. At 10:40 PM CST President David J. Wilson adjourned the meeting of the Executive Committee.