

PROCEEDINGS OF THE TENNESSEE ACADEMY OF SCIENCE 2005

SARAH H. SWAIN, SECRETARY TAS

*Middle Tennessee State University, Murfreesboro, Tennessee*TENNESSEE ACADEMY OF SCIENCE
EXECUTIVE COMMITTEE MEETING
22 April 2005

President Steve Wright called the meeting of the Executive Committee of the Tennessee Academy of Science (TAS) to order at 6:25 PM CDT in the Massey Business Building on the campus of Belmont University, Nashville, Tennessee, 22 April 2005. Attendees were Past President and Meeting Coordinator Michael Redding, President-elect and 2005 Program Chair John Harris, Treasurer Steve Murphree, Secretary Sarah Swain, Managing Editor Gore Ervin, Director of the Junior Academy Jack Rhoton, Director of the Collegiate Division Fred Matthews, Director of Electronic Communications James Howard, Tennessee Department of Education Science Consultant Linda Jordan, Member-at-large 2003-2005 Michael Gibson, Member-at-large 2004-2006 Al Hazari, Member-at-large 2005-2007 Steve Hamilton, Education Committee Chair Cindi Smith-Walters, Publicity and Research Committee Chair Mandy Carter-Lowe, Membership Committee Chair Karen Kendall-Fite, Local Arrangements Committee members Andy Slinger and Michael Gibson, and guest Cynthia Rhorbach.

President Wright welcomed the Executive Committee and introduced new committee members and guests. Thanks were extended to Steve Murphree for handling room and meal arrangements for the meeting. President Wright asked for approval of a change in the meeting agenda to allow a report by guest Cynthia Rhorbach, representative of the Tennessee Department of Environment and Conservation. Minutes of the November 2004 Executive Committee meeting had been sent to committee members by Secretary Swain. A motion to approve the minutes passed.

REPORTS FROM OFFICERS
AND DIRECTORS

President-elect and Program Chairperson—John Harris discussed plans for the November 2005 annual meeting to be held on the campus of the University of Tennessee at Martin. Reelfoot Lake and cosmology are topics being considered for symposia. The plenary session speaker will be Dr. S. K. Ballal of Tennessee Technological University who will describe his experiences as a Fulbright Lecturer in Sri Lanka. The business meeting will follow the plenary session to increase member attendance. In addition to the usual afternoon paper sessions, a poster session will be held throughout the morning of the meeting day.

Past President and Meeting Coordinator—Michael Redding reported that the Nominating Committee would soon be seeking a 2006 President-elect. As Meeting Coordinator, Redding provided a checklist for future Local Arrangements Committee chairpersons to use each year. Copies of the checklist were provided for Executive Committee members. President Wright thanked Past President Redding for his thorough documentation of planning details that will provide a valuable service to future chairpersons. The Local Planning Checklist for the TAS Annual Meeting is copied below (Prepared by J. M. Redding, Annual Meeting coordinator, March 2005):

Two or Three Years in Advance of Meeting—At the request of the TAS Executive Committee, solicit support by members of the host institution, form a Local Arrangements Committee (LAC), elect/appoint a chairperson to serve as manager of planning and liaison with the TAS Executive Committee.

Obtain a formal invitation from the administration of the host institution.

Present invitation to the TAS Executive Committee for acceptance.

One to Two Years in Advance, as Needed—Rooms need to be reserved for general, plenary, workshops, poster, special meeting, and technical sessions. At present there are 13 listed sections; however, often two or more sections are combined. Attendance varies according to the section, ranging from 1-50 approximately. There may be need for a room for the Science Chairs meeting and a presentation prep room for those who want to review their talks.

Reserve room and obtain commitment to provide food service for the luncheon.

Reserve room and obtain commitment to provide food service for Executive Committee meeting on evening before general meeting. Frequently, the President of the host institution has hosted this dinner; however, the TAS Treasurer can provide funds if necessary.

Reserve room and obtain commitment to provide continental breakfast service in the morning and optional coffee/tea/soda service in the mid-afternoon.

Consider possibility of offering field trip(s) before or after the Meeting.

Consider possibility of organizing a workshop(s) that might capitalize on particular strengths or interests of local members and non-members. For example, in Memphis, a workshop on medical technology supported by the University of Tennessee Health Science Center, or in Martin, a workshop on Reelfoot Lake.

Five to Six Months in Advance (by Early June for Call for Papers Mailing)—Contact local hotel/motel management

about offering discounts for TAS members attending the meeting.

Send Meeting Coordinator information about local hotel/motel options including proximity to the meeting site and price ranges.

Notify the Program Chair (TAS President-Elect) of any field trips or items of local or special interest that should be incorporated into the Call for Papers.

Three Months in Advance (by September 1; Some Items for Inclusion in Printed Program)—Identify appropriate location and reserve tables for registration desk and poster session.

Notify meeting coordinator of specific room numbers and seating limits for assignment to the various general and technical sessions.

Arrange parking privileges for meeting participants near meeting site, and notify Meeting Coordinator of those arrangements.

Send Meeting Coordinator detailed driving instructions and local map.

Arrange for appropriate signage if necessary to guide participants to the meeting site.

Confirm arrangements (menu options, tickets, etc.) for executive committee dinner, luncheon, continental breakfast, and afternoon snack service.

Confirm availability of audiovisual equipment and notify Meeting Coordinator of any unsatisfied needs so that he/she can make other arrangements. Have an emergency back-up plan for malfunctioning equipment on meeting day.

Confirm status of TAS poster boards, section signs, and TAS banner, usually in possession of last LAC chairperson.

Afternoon before General Meeting—Post signage as needed; notify campus police of impending influx of "foreign" cars.

Set up registration tables: other tables as needed for vendors or display.

Set-up poster tables and boards as needed.

Morning of General Meeting—Ensure arrival of breakfast service, unlock rooms, ensure working order of all equipment, post assistants to field questions and deal with problems. Relax and enjoy.

Treasurer—Steve Murphree discussed the following report:

Treasurer Murphree reported that it was too early to know what difference dues increases would make on the

CASH BALANCE—July 1, 2004 \$16,283.87

RECEIPTS

Membership Fees	7,000.00
Institutional Dues	4,500.00
Library Subscriptions	1,705.00
Interest Earned, US Bank	12.49
Contributions	70.00
Annual Meeting Registration and Meal Fees	4,345.00
Page Charges	2,722.50
Journal Revenue	357.50
Savings Account Adjustment	4,903.08
TJAS Trust Fund	
TOTAL RECEIPTS	25,615.57
TOTAL CASH AVAILABLE	41,899.44

DISBURSEMENTS

<i>Journal</i>	6,478.41
Tennessee Junior Academy of Science	8,366.68
Treasurer's Expenses	
Travel	1,023.42
Annual Meeting Expenses	4,638.05
Plaques and Awards	212.63
Dues and Fees	446.50
Web Site Maintenance	119.40
Science Fairs and Olympiads	4,350.21
Checking account Adjustments	2,930.55
Auditor's Fee	
Collegiate Division	
TOTAL DISBURSEMENTS	28,565.85
CASH BALANCE—April 15, 2005	13,333.59
Receipts	25,615.57
Disbursements	28,565.85
Cash Decrease	-2,950.28
BREAKDOWN OF HOLDINGS	
US Postal Service, Cookeville, TN	
US Postal Service, Lawrence, KS	30.35
TTU Account	84.31
Checking Account, US Bank	2,083.62
Savings Account, US Banks	14,532.02
TAS HOLDINGS—April 15, 2004 (2 accounts)	16,730.30
TJAS TRUST FUND (Vanguard Star Fund) (9,240.619 shares as of 12/31/04)	
Account value as of 12/30/04	173,169.20
Disbursements (dividend distributions) 12/19/03	2,405.56
Account Value as of 3/31/05	171,321.08
TOTAL VALUE OF HOLDINGS— April 15, 2005	\$188,051.38

budget. Some institutional dues had not yet been received. A motion to accept the Treasurer's report passed.

Managing Editor—M. Gore Ervin discussed the following report:

"There were a total of nine manuscripts submitted during calendar year 2004. Five of these are published or "in press", two were returned to the authors for revision, one paper was rejected, and one was withdrawn.

"There have been three papers submitted thus far in 2005: one in chemistry and two in microbiology. All three of these papers are currently being reviewed.

"The January and April 2005 issues (80:1 and 2, respectively) have been submitted to Allen Press and should be distributed in May 2005. The January issue contains two manuscripts and the April issue contains the proceedings and abstracts of the 2004 Academy meeting. The July 2005 issue will contain at least two manuscripts, the Abstracts of the spring 2005 Collegiate Division meetings, and one book review."

President Wright commended Managing Editor Ervin for bringing journal publication up to date.

Electronic Communications—Director James Howard provided an update on the status of the TAS web site. Meeting information has been updated. Contact information for

Executive Committee members also has been updated. Plans are in place to improve membership database searching options. The \$200 allotted last year for student help was not spent. Director Howard expects to need additional money (\$300–\$400) to hire technical expertise to set up a new database. The current web site will work until December 2005. Estimated cost to expand web space to 1000 mb is approximately \$150 per year. The total request for funds is \$550. A motion to provide \$550 for expenses to develop a new web site was approved.

Junior Academy of Science—Director Jack Rhoton discussed his written report:

“The spring 2005 meeting of the Tennessee Junior Academy of science (TJAS) met on Friday, April 22, 2005, at Pearl Cohn High School in Nashville. A total of twenty-five students were invited to present their research papers. This year ninety students from across the state were involved in TJAS research.

“During the April meeting a framed certificate and a small honorarium (\$100) was presented to an outstanding science teacher from each of the three regions of the state. The recipients of this year’s award are as follows: Dr. John Lee (Chemistry and Molecular Research and Biology), Martin Luther King Jr. Magnet School, Nashville; Stan Peppenhorst (Chemistry and Honors Chemistry), Germantown High School, Memphis; and Scott Tester (Middle School Science), Cloudland Middle School, Roan Mountain. These TAS Outstanding Science Teaching Awards recognize teachers for their outstanding contribution to science education and for stimulating and inspiring students to an active interest in science.

“The Tennessee Academy of Science recognized four students in the Upper East Tennessee Science Fair held on the campus of East Tennessee State University on April 7, 2005. Two top prizes were given: one to the student who placed first in the Biological Sciences category and one to the student who placed first in the Physical Sciences category. In addition, two students won Honorable mention recognition: one from the Biological Sciences and one from the Physical Sciences category.

“Philip C. Redding represented TJAS at the 2005 American Junior Academy of Science annual meeting in Washington, DC in February. The title of Philip’s paper was ‘Disproportionate Growth Rates of Root and Shoot Tissue in Maize, *Zea mays*’.

Director Rhoton, who had conducted the TJAS annual meeting today at Pearl Cohn High School in Nashville, reported that four members of the TAS Executive Committee had attended today’s TJAS meeting. Member-at-large Al Hazari recommended that TJAS winners and their abstracts be published in the Journal. Director Rhoton thanked the Executive Committee for financial support to attend the Section Q (Science Education) meetings at this year’s annual meeting of the American Association for the Advancement of Science (AAAS).

Visiting Scientist Program—Director Michael Daley was not in attendance and no report was submitted.

Collegiate Division—Director Fred Matthews informed committee members that specific dates and locations are not yet certain for spring 2005 Collegiate Division meetings in the Middle and West regions. The East region meeting will be held 13 April 2005 at Southern Adventist University, Collegedale

according to East region coordinator and former Executive Committee member Teresa Fulcher. Director Matthews will provide reports of the East, Middle, and West regional meetings at the November meeting of the Executive Committee.

AAAS Section Y Representative—Representative Michael Redding discussed the following report:

“Representing the TAS, I attended the Annual Meeting of the American Association for the Advancement of Science in Washington, DC on February 17–20, 2005. The following comments summarize my activities and information deemed pertinent to the TAS.

“At the AAAS Affiliates meeting, representatives of the AAAS staff reported on the products of several of their most active workgroups, including a detailed analysis of the federal science budget.

“The Section on General Interest in Science and Engineering (Section Y) held its annual business meeting on February 18. Chairperson Susan Cozzens presided. John Safko, Section webmaster, reported progress on the Section’s website hosted by the AAAS <http://science.aaas.org/~generall>. Links to section-sponsored symposia are to be listed on the site along with general information. There followed a discussion about potential section-sponsored workshops for the 2006 AAAS meeting. Section representatives to the AAAS Council commented on pending issues before the Council.

“The National Association of Academies of Science (NAAS) Delegates Workshop was held on February 19 prior to the business meeting. The workshop consisted of a panel presentation by representatives of the member organizations of the National Academies of Science. Three of the member academies are honorary in nature, including the National Academies of Science, Engineering, and Medicine. The fourth and largest member, the National Research Council (NRC), is a group commissioned by Congress to provide guidance to the Congress whenever requested. Its primary responsibility is to organize and manage working groups composed of volunteer experts to analyze and recommend solutions to important problems relating to public policy. The NRC produces a steady stream of reports, books, and other publications relating to their research projects, many of which are available free-of-charge online or in hard copy. A sample of their products includes: Standards for Science Education; How People Learn—K–12; Transforming Undergraduate Education; and Teaching Evolution in High School. The full list of available publications can be found at www.nationalacademies.org.

“President Ed Brogie (Nebraska) presided over the annual business meeting of NAAS delegates. Dr. Kathleen Donovan (Oklahoma) was recognized as the incoming President. Dr. Michael Straus (Pennsylvania) was elected as President-elect. The primary function of the NAAS is the organization of the American Junior Academy of Science (AJAS) meeting. The AJAS has a budget of about \$100,000 per annum generated from corporate fund-raising and registration fees. The 2005 AJAS program was exceptionally exciting thanks to the generous support of several new and returning sponsors.”

In the discussion that followed the report, Section Y Representative Redding suggested a link be provided on the TAS web site to allow members to access AAAS publications related to science and science education.

State Science Consultant—Consultant Linda Jordan discussed a new federal program authorizing \$450 million for competitive 3-year grants to partnerships for activities to improve academic achievement of K-12 students in the areas of mathematics and science. Consultant Jordan would like to promote the math and science partnerships via the TAS electronic newsletter. Science Consultant Jordan also announced a summer institute related to science inquiry, standards, and safety for teachers of grades 6-12. The institutes are scheduled to be held in Williamson, Henderson, and Knox counties during the month of June 2005. She explained that because the federal program, "No Child Left Behind" (NCLB), mandates that state assessments be aligned with state standards, it is important for teachers to offer instruction that is linked to standards. The workshops will offer teachers the tools and skills needed to teach physical science concepts through inquiry in a learning environment that is safe for conducting science activities.

REPORTS OF COMMITTEES

Auditing Committee—President Wright announced the appointment of Dr. Robert Grammer (Belmont University) and Dr. Jon Lowrance (Lipscomb University) to the Auditing Committee. Committee members will audit TAS financial records and Treasurer's reports. Discussion by the Executive Committee led to the approval of a motion to combine the Auditing and Financial Oversight Committees into one committee that would audit financial records and advise the Treasurer regarding investments. The motion to combine the committees was approved.

Education Committee—Chairperson Cindi Smith-Walters discussed the following report:

"Initiatives since the last meeting: Information about TAS Networks program was sent to Jim Holt, editor of the Tennessee Environmental Education Association newsletter and to Becky Ashe, Tennessee Science Teachers Association (TSTA) Newsletter editor.

"News and General Information: On December 1-3rd, 2005 TSTA will host the Southeastern Regional National Science Teachers Association Conference at the Opryland Hotel in Nashville. Deadline to submit proposals was April 15. It is still possible to submit by contacting www.NSTA.org, email: . I know of several TAS members who submitted early proposals to lead sessions. The Tennessee State Dept. of Education and Tennessee Dept. of Environment and Conservation have joined together to re-establish the CENTS (Conservation Education Now for Tennessee Students) program. Tami Coleman, a former high school science teacher, is the director and be contacted at: Tamera.coleman@state.tn.us.

"I will be contacting committee members this summer to find out if they are still willing/able to serve the committee. If you know of new folks who would be interested, please pass their names and contact information on to me. Ideas and/or suggestions for the Education Committee can be forwarded to me at 615-898-5449 or csmithwa@mtsu.edu."

Publicity/Research Committee—Committee Chairperson Mandy Carter-Lowe discussed the following report:

"Digital pictures were taken at the November 2004 meeting at Columbia State Community College by Karen Kendall-Fite and Mandy Carter-Lowe. Certificates and seals were ordered for preparing TAS and science fair certificates.

Certificates were prepared and mailed to student oral and poster presentation winners at the November 2004 meeting. A revised certificate was mailed to Margaret Whalen at Tennessee State University for A. Alouch due to name being misspelled in earlier TAS correspondence. Certificates were prepared and mailed to winners of the Middle Tennessee Science and Engineering Fair. A press release was sent to the *Tennessean* concerning the Tennessee Junior Academy of Science.

"Research was conducted concerning the cost to continue receiving Triangle Coalition Electronic Bulletin (TCEB) after expiration of the trial membership period. The mission of the Triangle Coalition is to 'bring together the voices of government, business, and education to improve the quality and outcome of mathematics, science, and technology education.'" An Executive Committee decision regarding TCEB membership is detailed in the Old Business section of these minutes.

Chairperson Carter-Lowe agreed to send meeting pictures on compact disc to TAS Director of Electronic Communications Jim Howard who will select photos for the TAS web site. Managing Editor Gore Ervin will select photos for publication in the *Journal*.

Membership Committee—Chairperson Karen Kendall-Fite proposed an electronic newsletter to be published bimonthly for distribution to the TAS membership. Chairperson Kendall-Fite hopes to identify a contact person at each institution to collect news items for the newsletter. The first newsletter is expected to be ready in May 2005. Discussion focused on ideas for newsletter contents, including the addition of appropriate Internet links. The Executive Committee offered encouragement and support for the development of the idea.

Industry and Government Committee—Andy Sliger and Michael Gibson, Local Arrangements Committee members for the 2005 annual meeting, continue to work with Michael Daley, University of Memphis, to identify a person in industry who has had an impact on science education in West Tennessee. In accord with previous action taken by the Executive Committee, the Local Arrangements Committee of the host institution would attempt to identify a local/regional industrialist to recognize at its annual meeting.

OLD BUSINESS

Local Arrangements Committee members, Drs. Andy Sliger and Michael Gibson, from the University of Tennessee at Martin discussed plans for the 2005 annual meeting to be held on the campus of the University of Tennessee at Martin, Martin, Tennessee 17-19 November 2005. A Reelfoot Lake Symposium, as well as a Saturday morning field trip to Reelfoot Lake, are planned. An additional symposium on cosmology is being considered. President Wright commended Dr. Sliger and Dr. Gibson for their thorough planning and the detailed report.

Publicity and Research Committee Chairperson Mandy Carter-Lowe discussed the cost to continue receiving TCEB after expiration of the trial membership period. The stated mission of the Triangle Coalition is to "bring together the voices of government, business, and education to improve the quality and outcome of mathematics, science, and technology education." The cost to join is determined by a sliding scale

based upon the organization's operating budget. Cost to TAS would be \$100. The current issue of TCEB is available online at www.triangle-coalition.org. Members are allowed to search back issues. Members of the Executive Committee and Publicity/Research Committee were emailed to obtain opinion as to whether to continue the subscription. The TCEB membership option was discussed. A motion to allow the trial membership with Triangle Coalition Electronic Bulletin to expire, and not renew, was approved by vote of the Executive Committee.

President Wright opened discussion regarding TAS sponsorship of in-service workshops on science laboratory safety for teachers. It was suggested that the TAS membership be polled through the electronic newsletter to identify those interested in conducting workshops. A TAS website link on the TSTA web site was recommended so that teachers could contact TAS members for help. President Wright proposed funding travel expenses for TAS members conducting workshops. A motion to allow \$100 in travel expenses per person and a limit of \$1000 expenditure by TAS in the first year of the project was approved by vote of the Executive Committee.

Executive Committee member Karen Kendall-Fite and Tennessee Department of Environment and Conservation representative Cynthia Rohrbach discussed the on-going Green Schools Program. Last year program efforts at 18 schools removed over three tons of waste. Over 3000 lbs. of waste have been removed from 14 additional schools this spring. At least 63 schools need to have wastes removed. A Green Chemistry lab manual has been prepared by Department of Chemistry and Physics graduate students for use in high school chemistry courses. Environmental Protection Agency grants are available to fund similar projects. Rohrbach encouraged TAS members to serve as resource persons for the development of such projects.

NEW BUSINESS

Tennessee Junior Academy of Science (TJAS) Director Jack Rhoton discussed TAS financial support for Science Olympiad. He reminded Executive Committee members that each year TAS allocates \$1000 for Science Olympiad: \$500 for middle schools and \$500 for high schools. The funds are used for student travel to the national competition. Rhoton proposed that the Science Olympiad event coordinators send an invoice directly to the TAS Treasurer each year rather than request funds through the TJAS Director. A motion to approve Rhoton's proposed passed.

TJAS Director Rhoton informed the Executive Committee that Metropolitan Nashville Schools now requires TJAS to have liability insurance coverage in order to gain permission to use their facilities for its meetings. Martin Luther King Magnet School has agreed to host the 2006 meeting if TJAS has liability insurance coverage. President Wright asked Director Rhoton to investigate the cost for insurance as well as other feasible meeting sites appropriate for TJAS within the area that would meet the Metro Nashville Schools requirements. A motion to authorize up to \$500 for liability insurance was approved by a vote of the Executive Committee.

During the summer President Wright had polled the members of the Executive Committee regarding possible suspension of the Ethics Section due to low participation and attendance in recent years. Eight members voted to cancel

the section, 3 voted in favor of suspending the section, 0 voted to keep the section "as is". After discussion a motion to suspend the Ethics Section was approved by vote of the Executive Committee.

President Wright announced future meeting sites as follows: 2005 at the University of Tennessee at Martin, Martin, Tennessee; 2006 at Austin Peay State University, Clarksville, Tennessee. Volunteer State Community College, Gallatin, Tennessee was discussed as a possible meeting site for the 2007 meeting. President Wright will solicit an invitation from the institution.

The April 2005 meeting of the TAS Executive Committee was adjourned at 9:45 PM, CDT.

TENNESSEE ACADEMY OF SCIENCE EXECUTIVE COMMITTEE MEETING 17 November 2005

President Stephen M. Wright called the meeting of the Tennessee Academy of Science (TAS) Executive Committee to order at 6:40 PM CDT in the Conference Room of the Chancellor's Residence on the campus of The University of Tennessee Martin, (UTM), Martin, Tennessee, 17 November 2005. Attendees were President-elect John Harris, Past President J. Michael Redding, Treasurer Steven Murphree, Secretary Sarah Swain, Managing Editor Gore Ervin, Junior Academy of Science Director Jack Rhoton, Electronic Communications Director James Howard, Visiting Scientist Program Director Michael Daley, Education Committee Chairperson Cindi Smith-Walters, Membership Committee Chairperson Karen Kendall-Fite, Member-at-large Michael Gibson, and Local Arrangements Committee Members Andy Sliger and Wintfred Smith. The Executive Committee was welcomed to the campus by Chancellor Nick Dunagan.

A motion to approve the minutes of the April 2005 meeting of the Executive Committee passed. President Wright introduced attending members of the Local Arrangements Committee and expressed appreciation to UTM for hosting the meeting.

REPORTS FROM OFFICERS AND DIRECTORS

President-elect and 2005 Program Chairperson—John Harris discussed program details and changes. The Reelfoot Lake fieldtrip was cancelled due to low response from the membership. Members who paid for the fieldtrip will be reimbursed. Michael Gibson reported that a Reelfoot Lake fieldtrip was being considered for spring 2006. The UTM Local Arrangements Committee has offered to organize the event, possibly as a two-day event open to both students and TAS members. A motion to pursue the spring Reelfoot Lake fieldtrip was approved. Gibson and others will prepare a flier for distribution when details are complete. The TAS website will advertise the event. President-elect Harris thanked Meeting Coordinator Michael Redding for his assistance in planning and coordinating the events of the 2005 annual meeting.

Meeting Coordinator and Past President—Michael Redding provided a summary of oral and poster presentations at TAS annual meetings 2002–2005. As expected, participation at

CASH BALANCE—July 1, 2005	\$7,280.18
RECEIPTS	
Membership Fees	3,675.00
Institutional Dues	4,500.00
Library Subscriptions	480.00
Interest Earned, US Bank	0.96
Contributions	140.00
Annual Meeting Registration and Meal Fees	2,399.00
Page Charges	
Miscellaneous Income	53.60
TJAS Trust Fund	1,663.31
TOTAL RECEIPTS	12,911.87
TOTAL CASH AVAILABLE	20,192.05
DISBURSEMENTS	
Secretary's Expenses	10.00
<i>Journal</i>	5,360.02
Tennessee Junior Academy of Science	6,830.42
Treasurer's Expenses	19.97
Travel	82.18
Annual Meeting Expenses	736.58
Plaques and Awards	60.50
Dues and Fees	507.02
Web Site Maintenance	89.95
Science Fairs and Olympiads	
Auditor's Fee	
Collegiate Division	
Miscellaneous Expenses	20.00
TOTAL DISBURSEMENTS	13,716.64
CASH BALANCE—November 16, 2005	6,475.41
Receipts	12,911.87
Disbursements	13,716.64
Cash Decrease	-804.77
BREAKDOWN OF HOLDINGS	
US Postal Service, Cookeville, TN	161.14
US Postal Service, Lawrence, KS	122.54
Checking Account, US Bank	1,298.90
Savings Account, US Bank	3,322.93
TAS HOLDINGS—November 16, 2005	4,905.51
TJAS TRUST FUND (Vanguard Star Fund)	
(9,240.619 shares as of 12/31/04)	
Account Value as of 9/30/05	180,007.20
Disbursements (dividend distributions) 9/30/05	1,663.31
Account Value as of 11/16/05	179,360.41
TOTAL VALUE OF HOLDINGS—November 16, 2005	\$184,265.92

the UTM (2005) meeting was similar to that of the ETSU (2002) meeting. Traditionally, meeting participation has been greatest when the annual meeting was held in a Middle Tennessee location, and the summary statistics demonstrated that trend. Where participation is low, technical sections are often combined as were Health and Medical Sciences, Microbiology, and Cell and Molecular Biology for the 2004 and 2005 meetings. The numbers in Redding's summary were

pre-meeting numbers for 2005 and will be updated after the annual meeting.

Treasurer—Steven Murphree discussed the Treasurer's Report provided below:

A motion to combine the savings and checking accounts was approved. A motion to authorize the Treasurer to poll the Executive Committee for consent, if it appears necessary to remove money from the Vanguard Account, was approved.

Managing Editor—Gore Ervin discussed the following report:

"Nine manuscripts were submitted for review during calendar year 2004. Five papers were published, three were withdrawn after the first review, and one was rejected, reflecting an overall acceptance rate of 56%.

"Only seven papers have been submitted for review thus far in 2005: one in botany, two in chemistry, one in math and science education, one in microbiology, and two in zoology. Two of these papers have been accepted and are in press, two have been returned to the authors for revision, two are in review, and one paper was rejected.

"The January 2005 issue (80:1) included two research papers and Academy announcements for a total of 16 pages. The April 2005 issue (80:2) contained the proceedings and abstracts of the 2004 Academy meeting for a total of 40 pages. Due to the low number of submitted/accepted manuscripts, the July and October 2005 issues have been combined (80:3-4). This issue contains two manuscripts, the abstracts of the spring 2005 Collegiate meetings, a short article on the history and activities of the Tennessee Junior Academy of Science, and one book review. The combined July-October issue will contain approximately 30 pages and publication is scheduled for December.

"The abstract submission process went exceptionally well this year and the section chairs are to be congratulated for their efforts in encouraging timely abstract submissions. All of the submitted abstracts were compiled by section, edited, and returned to the section chairs 2-3 weeks prior to the meeting.

"Until the number of manuscript submissions increases the *Journal* should be published twice a year as combined issues, January-April and July-October. Additional activities planned for 2006 include a complete revision and update of the author submission guidelines, posting of complete submission guidelines on the TAS Website, and development of electronic manuscript submission and review procedures.

"I also want to acknowledge several contributions to the *Journal* Editorial office. Contributions of multi-volume collections of past *Journal* issues from Dr. Phillip Mathis, Dean of the University Honors College, Middle Tennessee State University and Dr. George H. Allen, Professor Emeritus, Humboldt State University and his wife Beverly have significantly expanded the office collection of previous *Journal* issues. Finally, I want to belatedly acknowledge Dr. Gus Tomlinson, retired Tennessee State University Professor and former *Journal* Managing Editor, for making available *Journal* volumes 1-47 on microfilm."

Discussion followed related to the feasibility of electronic journal publishing and copying back issues to CDs. No committee action was taken on the matter. President Wright suggested that presenters at this annual meeting be encouraged to prepare their presentations for publication in the TAS journal.

Electronic Communications—Director James Howard discussed the status of the TAS web site and its new URL. The new URL is <http://www.mtsu.edu/~tnacadsci> and will be advertised throughout the days of the annual meeting as well as in the *Journal* and in upcoming issues of the newsletter. Director Howard explained that the change was necessary due to the prior service going out of business. He reported that the database part of the “Networks” site is operational and up to date. The remaining portions of the site are still under construction but, when completed, will be easier to administer due to web support available at Middle Tennessee State University (MTSU). Director Howard noted that members can now search for science fair judges by city and it is important for members to indicate their desire to be listed as available to serve as judges. The entire database can be searched for member names. Director Howard periodically receives updated membership lists from Treasurer Murphree. The new members for 2005 will be listed soon. A link for the TAS Fellows list also will be provided on the new site. President Wright thanked Director Howard for his work in maintaining the web site and noted that electronic meeting registration, and title and abstract submission had worked well this year.

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

“The 2005 annual meeting of the Tennessee Junior Academy of Science (TJAS) was held on Friday, April 22, 2005, at Pearl Cohn High School in Nashville, Tennessee. Ninety students from across the state participated in the 2005 TJAS program. Prior to the April 22 meeting, a panel of readers selected twenty-five student papers for presentation at the annual meeting. A panel of judges convened during the annual meeting selected two top presenters. They were: Shaleen Cholera, White Station High School, Memphis, and Aaron Lee, Martin Luther King Magnet School, Nashville. The title of Cholera’s paper was “Intracellular Replication and Gene Expression Pattern of *Staphylococcus aureus* and Emergence of Small Colony Variants: Intervention with Silencing of Selected Virulence (Leukotoxins—LukED, LukPV) and Genes Involved with DNA Synthesis (*Gyrase A*).” Mr. Lee’s paper was titled “The Role of Hepsin in an in vivo c-Myc Model of Prostate Cancer.” Both papers were published in the 2005 *Handbook and Proceedings of the Tennessee Junior Academy of Science* along with seven other papers of the top nine winners. Also, an abstract of each of the papers presented at the annual meeting was printed in the *Handbook*. A copy of the *Handbook* was sent to all high school science departments in Tennessee as identified in the Tennessee State Department of Education’s Directory of Public Schools, Approved Non-Public and Special State Schools. Also, all students and teachers who participated in the 2005 TJAS program received a copy of the *Handbook*.

“Philip C. Redding, Cookeville High School, a previous winner during the 2004 TJAS competition, represented TAS at the American Junior Academy of Science in Washington, DC, in February 2005, with his paper “Rapid and Reversible Photobleaching in a Green Plant”. He also presented his paper at the International Science and Engineering Fair in Phoenix, Arizona, May 2005.

“It is customary each year for the TJAS to recognize three outstanding science teachers, one from each region of the state. During the Spring 2005 TJAS meeting, a framed certificate and a small honorarium (\$100) was presented to the following

recipients: Dr. John Lee (Chemistry, Molecular Research and Biology), Martin Luther King Jr. Magnet School, Nashville; Stan Peppenhorst (Chemistry, Honors Chemistry), Germantown High School, Memphis; and Scott Tester (Middle School Science), Cloudland High School, Cloudland. These outstanding secondary science teacher awards recognize teachers for their outstanding contribution to science teaching and for stimulating and inspiring students to an active interest in science.

“Ms. Marion Pitts was named the recipient of the 2005 Tennessee Academy of Science Distinguished Science Teacher Award. Pitts, who teaches at Westview High School, Martin, Tennessee, will receive the award on November 18, 2005, during the TAS Annual Meeting in Martin. Ms. Pitts teaches biology, chemistry, and technology. Begun in 1997, the awards program was 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 and learning of science. In addition to the recognition, Ms. Pitts will receive from TAS a \$500 cash award, a plaque and a certificate. A press release of Ms. Pitts’s award has been prepared and submitted to local newspapers.

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

“Past and current recipients of the TAS Distinguished Science Teacher Award are: Alan Redmond (1997) John Sevier Middle School, Kingsport; Linda Phelp (1998) Camden Central High School, Camden; Jane Whitaker (1999) Lenior City High School, Lenior; Pat Carpenter (2000) McDonald School, Mohawk; Gary Barrigar (2001) Elizabethton High School, Elizabethton; Kathryn Gemmer (2002) University School, Johnson City; Constance Brown (2003) McEwen High School, McEwen; Jan Coley (2004) Jefferson County High School, Dandridge; Marion Pitts (2005) Westview High School, Martin.”

Committee member Andy Sliger noted that local television reporters want to be present to report the presentation of the Distinguished Science Teacher Award to local science teacher, Ms. Marion Pitts.

Collegiate Division—Director Fred Matthews. A report of the activities of the Collegiate Division is anticipated at the spring 2006 meeting of the Executive Committee.

Visiting Scientist Program—Director Michael Daley reported no activity in the program this year. Director Daley expressed his concern that administrative demands on teacher time interfered with the success of the program. A goal of the program is to have a regional contact person who could lead interested teachers and students to an appropriate contact. Michael Gibson suggested that informational fliers could be distributed at meetings of the Tennessee Science Teachers Association (TSTA). President Wright will ask newsletter editor, Karen Kendall-Fite, to prepare an article about the Visiting Scientist Program and solicit volunteers. Those members currently listed in the Visiting Scientist Program can be asked via the newsletter to update their presentation titles. Informational material will be prepared for the 2006 TSTA meeting in Nashville and for the TAS web site.

State Department of Education—Science Consultant Linda Jordan did not provide a report.

REPORTS FROM COMMITTEES

President Wright reported on recent appointments to TAS Standing Committees, as published in the program for the annual meeting. Dr. Michael Redding will chair the Long Range Strategic Planning Committee composed of committee members Dr. Jeff Boles, Tennessee Technological University; Ms. Teresa Fulcher, Pellissippi State Community College; Ms. Karen Kendall-Fite, Columbia State Community College; and Dr. Steven Murphree, Belmont University. New appointees to the Necrology Committee, chaired by Dr. Alexander Wells, Tennessee State University, are Dr. George Murphy, Middle Tennessee State University, and Dr. Wilburn A. Slinger, The University of Tennessee, Martin. The combined Audit and Financial Oversight Committee membership includes Dr. Robert Grammer, chair, Belmont University; Dr. Jon Lowrance, Lipscomb University; and Dr. John Harris (advisory), Tennessee Technological University. The rotating membership of the Nominating Committee, composed of past presidents, is as follows for 2005: Dr. J. Michael Redding, chair, Tennessee Technological University; Dr. John Harris, Tennessee Technological University; and Dr. Steven M. Wright, Middle Tennessee State University. Dr. Kim Cleary Sadler, Middle Tennessee State University, has been added to the Publicity and Research Committee. Many past appointees continue to serve in TAS Standing Committees. A complete list can be found in the printed program for the 2005 TAS annual meeting.

President Wright reported that Michael Redding, Past President and Meeting Coordinator, has agreed to continue to serve as the TAS representative to the American Association for the Advancement of Science (AAAS), Section Y. Representative Redding noted that the continued participation of TAS is especially appreciated by the National Association of Academies of Science (NAAS). It should be noted that TJAS Director Jack Rhoton served as Education Representative to AAAS, Section Q.

Auditing/Financial Oversight Committee—Chairperson Robert Grammer is waiting for the final accounting to be completed and did not provide a report for this meeting. Treasurer Murphree expects the report to be available by the end of the calendar year.

Education Committee—Chairperson Cindi Smith-Walters discussed the following: TAS information was distributed to both TSTA (Tennessee Science Teachers Association) and TEEA (Tennessee Environmental Education Association) newsletters. The chairperson sent the following to members of the TAS Education Committee: 1) information about reauthorization of the CENTS (Conservation Education Now for Tennessee Students) program, co-sponsored by Tennessee Department of Education and Department of Environment and Conservation; 2) details about the Water Habitat Grant Program available from Project CENTS; 3) contact information for comments on the National Assessment of Educational Progress (NAEP) science frameworks <http://www.nagb.org/>. Members were encouraged to provide written comments directly to NAGB. More information is available at this web address: http://nces.ed.gov/nationsreportcard/about/ltr_main_diff.asp. Briefly, NAEP assesses samples of students nationwide in grades 4, 8, and 12 in various academic subjects, including science. Results are reported for the nation in terms of the three achievement levels—basic, proficient, and

advanced; and 4) current information and legislator contacts concerning the Tennessee Bottle Bill and litter pick-ups. Chairperson Smith-Walters asked if updates like those above should be sent to the entire Executive Committee. The chairperson plans to survey the Education Committee membership to identify those who wish to continue to serve and for help in identifying others who may wish to serve on the committee. She encouraged the Executive Committee to submit suggestions for new initiatives for the Education Committee. Information on "Project Cents—Conservation Education Now for Tennessee Students" was distributed to Executive Committee members with a request for TAS member participation. The role of TAS Education Committee members in distributing information about TAS programs such as "Network" and the Visiting Scientist Program was discussed.

Long-range Strategic Planning Committee—Chairperson Michael Redding plans to convene the committee in the near future to discuss long-range initiatives for TAS.

Publicity and Research Committee—Chairperson Mandy Carter-Lowe provided the following report:

"Digital pictures from the 114th annual meeting at Columbia State were downloaded to a CD and given to Karen Kendall-Fite. After she adds additional pictures from the meeting, copies of the CD will be sent to Gore Ervin and James Howard for use in the *Journal* and on the TAS website.

"Press releases were sent via email/fax to daily newspapers, radio stations, and TV stations in Tennessee announcing the 115th annual meeting to be held at University of Tennessee, Martin. In addition, press releases were sent to Nashville Public Radio, WSMV-Channel 4, WTVF-Channel 5, and WKRN-Channel 2.

"A student worker is currently working with the committee chair to expand the database to include smaller regional newspapers. In addition she is trying to identify staff writers who would potentially cover future meetings.

"No requests for regional science fair certificates were received since the last executive committee meeting."

The following is a press release prepared by Chairperson Carter-Lowe for distribution to local news media:

"The 115th meeting of the Tennessee Academy of Science will be held at the University of Tennessee, Martin in Martin, Tennessee, on November 17-19, 2005. The Tennessee Academy of Science (TAS) was founded in 1912 and has continually worked to promote scientific advancement in the State of Tennessee and in the South by providing a forum for communication regarding all aspects of science.

"In addition to technical sessions focusing on research from specific scientific disciplines, the meeting will include a keynote address, "Tsunami 2004", and a symposium on "Reelfoot Lake.

"The keynote address, "Tsunami 2004", features Dr. S. K. Ballal. Dr. Ballal received his PhD in botany from the University of Tennessee in 1964. In 2004 he was a Fulbright Fellow in Sri Lanka. He currently serves as Professor of Biology at Tennessee Technological University in Cookeville, Tennessee.

"Reelfoot Lake Symposium will include five presentations on Friday morning. The symposium is the sequel to a symposium held at the 2003 TAS Annual Meeting in Nashville, Tennessee. On Saturday, fieldtrips to Reelfoot Lake will highlight the lake's natural features. Presenters from the

symposium, along with additional persons knowledgeable of the area, will be on hand to discuss these features.

“If you are interested in registering for the meeting or joining the Tennessee Academy of Science, please contact Dr. Steven Murphree of Belmont University at murphrees@mail.belmont.edu, url: or 615-460-6221. Information on the meeting, including registration forms and the full program of presentations, can be found on the TAS website <http://www.mtsu.edu/~tnacadscl>.”

Membership Committee—Chairperson Karen Kendall-Fite discussed plans for a quarterly TAS electronic newsletter. Chairperson Kendall-Fite reported a favorable response from TAS members willing to serve as campus contacts for the newsletter. Contact information for new members will be made available to the contact persons after the annual meeting. The newsletter will provide advertisements for the Visiting Scientist Program, Networks, and other TAS out-reach efforts. Chairperson Kendall-Fite will notify Secretary Swain of any changes in the committee membership.

Nominating Committee—Chairperson and Past President Michael Redding presented the slate of officers for 2006 as follows: President-elect George Webb, Tennessee Technological University; Treasurer Steven Murphree, Belmont University; and Secretary Sarah Swain, Middle Tennessee State University. A motion to accept the slate as presented by the Nominating Committee was approved.

Industry/Government Committee—(currently no chair) Committee members Michael Gibson and Andy Sliger, as representatives of the UTM Local Arrangements Committee, reported that no award would be presented this year. In the recent past TAS has attempted to locate deserving industrialists from the region of that year’s annual meeting site to recognize with the Industrial Scientist Award. No suitable nominee was identified this year. Gibson and Sliger suggested that the criteria for the award be reconsidered and possibly expanded to include other professionals. The Executive Committee agreed that perhaps the Long-range Strategic Planning Committee could consider the question and make recommendations regarding criteria for the award.

Fellows Committee—Chairperson Charles R. McGhee submitted the following nominations on behalf of the Fellows Committee: Nominees for Fellow of the Tennessee Academy of Science, 2005, are Dr. J. Michael Redding, Professor of Biology, Tennessee Technological University and Dr. Stephen M. Wright, Professor of Biology, Middle Tennessee State University. Dr. Redding was 2004 TAS President and Dr. Wright is the current 2005 TAS President. Both have been active in TAS for many years presenting research papers, directing student research and presentation, acting as section chairs, and serving on various TAS committees. The TAS Fellows Committee is served by Chairperson Dr. Charles R. McGhee, Middle Tennessee State University; Dr. Gladius Lewis, University of Memphis; and Brother Kevin Ryan, Christian Brothers University. A motion was approved to accept the nominations of the Fellows Committee. The nominations approved by the Executive Committee will be presented to the membership for approval during the annual business meeting, 18 November 2005.

Necrology Committee—Chairperson Alexander Wells submitted the name of TAS member Dr. Ernest W. Blythe Jr. (1930–2005) for recognition and remembrance. Dr. Blythe was

a member of the geology faculty at UTM from 1969 to 1997. During that time he taught, served as founding director of UTM Honors Program, coordinated the Academic Speakers Series at UTM, and served as site director for the Governor’s School for the Humanities during the 1980’s. For many years Dr. Blythe chaired The University of Tennessee Board of Trustees Athletic Board and represented the university at NCAA conferences. He was active in civic and charitable organizations in his community and served the Kiwanis Club on local, regional, and national levels. Dr. Blythe will be remembered to the membership during the 2005 annual business meeting, 18 November 2005.

Resolutions Committee—Chairperson Sallie Noel submitted the following resolution of appreciation for consideration by the Executive Committee:

“Whereas, the Tennessee Academy of Science is enjoying the most pleasant, profitable, and well-organized series of meetings at The University of Tennessee, Martin, and

“Whereas, the success of these meetings has resulted mainly from the efforts of the officers of the respective sections; the Local Arrangements Committee, composed of Dr. Wilburn A. Sliger (Chair), Dr. Michael Gibson, and Dr. Wintfred L. Smith; the 2005 TAS Executive Committee, composed of Dr. Stephen M. Wright, President, Dr. John Harris, President-Elect, Dr. J. Michael Redding, Past-President, Ms. Sarah H. Swain, Secretary, and Dr. C. Stephen Murphree, Treasurer; and from the recognition given the meetings by the press, television, and radio stations; and from the generous hospitality of the host institution, The University of Tennessee, Martin, and its Chancellor, Dr. Nick Dunagan;

“Be it resolved, therefore, that the Tennessee Academy of Science expresses its sincere appreciation to these and all others who contributed to the success of the meetings.”

A motion to accept the resolution was approved. The Resolution of Appreciation will be presented for approval and adoption by the membership at the TAS annual business meeting, 18 November 2005. The Resolutions Committee is served by Ms. Sallie Noel, chair, Austin Peay State University; Ms. Betty Davis, East Tennessee State University; Dr. David Pitts, The University of Tennessee, Martin.

OLD BUSINESS

Executive Committee members Andy Sliger and Michael Gibson, also serving on the UTM Local Arrangements Committee, discussed arrangement details for the 2005 annual meeting hosted by UTM. Computer specialists will be available at a Help Desk to aid presenters. Computers will be set-up in each section meeting room with student workers on hand to aid presenters. A TAS office with telephone and volunteer personnel has been set up for TAS members and guests. Office space for poster judges will be provided adjacent to the poster display area. Sliger and Gibson offered personal cell phone numbers for emergency contact. President Wright praised the UTM Local Arrangements Committee, and committee members Sliger and Gibson, for their careful attention to detail in preparing to host the 2005 TAS annual meeting.

Junior Academy of Science Director Jack Rhoton reported on the question of liability insurance for the TJAS annual meeting. To hold the meeting on Metropolitan Nashville Schools property requires liability insurance with \$1,000,000 coverage. The estimated cost for that level of

coverage for the one-day meeting is \$540. The Pearl Cohn High School principal has agreed to host the 2006 meeting if TAS obtains the required liability insurance. After discussion the Executive Committee agreed that Director Rhoton should continue to investigate other options in the Nashville area.

President Wright reported that a letter was sent to notify the section chairperson, Dr. Rubye Prigmore-Torrey, of the Executive Committee's decision to discontinue the Ethics in Science and Technology section due to lack of interest from the membership. President Wright thanked Dr. Prigmore-Torrey for her service to TAS as section chairperson.

NEW BUSINESS

Should TAS prepare a position statement on the teaching of evolution was a question discussed by the Executive Committee in response to similar position statements issued by AAAS. Member-at-large Michael Gibson presented copies of AAAS position statements for review by Executive Committee members. A motion to form an ad hoc committee, chaired by Dr. Michael Gibson, to consider the issue and make recommendations to the Executive Committee was approved.

President Wright shared a letter of commendation sent to Governor's School for Sciences Director, Dr. Jeffrey Kovac, on behalf of TAS. The letter acknowledged the important contributions of the program to science education and research goals shared by TAS and the Governor's School for Sciences.

President Wright thanked Past President Michael Redding for recognizing the value of TAS support for the Governor's School program.

President Wright reported the results of a summer 2005 poll of the Executive Committee regarding interest in future joint meetings. All respondents favored pursuing future joint meeting possibilities with TSTA. Two respondents suggested keeping open the possibility of a joint meeting with the Kentucky Academy of Science if an appropriate location could be agreed upon. President Wright asked Jack Rhoton, TJAS Director and TSTA board member, to inform TSTA of our interest in a joint meeting in 2008, 2009, or 2010.

A formal invitation to hold the 2007 TAS annual meeting at Volunteer State Community College (VSCC), Gallatin, Tennessee, was received from Dr. Charles Lea, Vice President of Academic Affairs at VSCC. The TAS appreciates the invitation and looks forward to holding its 2007 annual meeting on the VCSS campus.

President Wright reported the formation of a Tennessee Board of Regents task force to re-evaluate faculty workload credit for laboratory teaching. Feedback from TAS members would be appropriate and helpful to the task force.

Managing Editor Gore Ervin presented sketches of a proposed TAS official seal and an official TAS logo for consideration by the Executive Committee. A motion to accept the proposed logo and seal passed.

The 17 November 2005 meeting of the Executive Committee of the Tennessee Academy of Science was adjourned by President Wright at 10:50 PM, CST.