
Academy Editors

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FIRST BUSINESS MEETING
3 APRIL 1998

Number present: 19
President-Elect Rose McConnell called the meeting to order at 1108 and welcomed all attendees.

McConnell recognized the following individuals/committees for reports:

1. Wayne Gray, Local Arrangements Committee:
   (a) Gray asked if anyone had ridden the shuttle from the Hilton to be sure it was operating (at is);
   (b) eighty-seven presentations are scheduled in four concurrent sessions each day;
   (c) received about 100 pre-registrations;
   (d) keynote speaker is Dr. Gregory Wilson, Director of NASA Lab in Huntsville, AL. He will speak at 1630 hrs.;
   (e) evening events will be a reception at the Discovery Museum and meal catered by Corky's at the River Market with musical entertainment by Lark of the Morning.

2. John Rickett, Secretary:
   (a) asked members to read and look for errors in minutes of the 1997 Business Meetings, and motion for approval, pending changes, will be made at the second business meeting;
   (b) membership report: 186 regulars; 47 lifers; 48 students; 17 sustaining; 1 sponsoring; and 2 sponsoring/conditional life members (total: 301). The recent trend has been downward, and should we be concerned? Submit any ideas for recruitment to J. Daly (when his health improves). Joe Guenter asked if the decline has been caused by lack of interest or forgetfulness. Rickett opined that it probably mostly lack of interest and mentioned specifically young faculty in the state who aren't getting involved.

3. Joyce Hardin, Treasurer: reviewed the financial statement briefly, emphasizing major sources of income, investments and expenses, and asked for questions–none came.

Funds

<table>
<thead>
<tr>
<th>Beginning Balance - 1 January 1997</th>
<th>$20,512.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Gain 1997</td>
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CLOSING BALANCE - 31 DECEMBER 1997 | $22,740.91 |

DISTRIBUTION OF ACCOUNTS

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<tr>
<th>Interest Bearing Checking Account (Mercantile Bank, Conway, AR)</th>
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<tr>
<td>Certificates of Deposit</td>
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<td>Dwight Moore Endowment (Mercantile Bank, Conway, AR - No. 175192 - 5.2% Int.)</td>
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<td>Life Membership Endowment (Mercantile Bank, Conway, AR - No. 175193 - 5.2% Int.)</td>
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<td>CD Unrestricted (Mercantile Bank, Conway, AR - No. 175443 - 5.2% Int.)</td>
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TOTAL | $22,740.91 |

Respectfully Submitted,

Dr. Joyce M. Hardin, AAS Treasurer

Financial Statement, Arkansas Academy of Science

INCOME: 1 January 1997 to 31 December 1997

1. INDIVIDUAL MEMBERSHIPS
   a. Regular | 2,405.00 |
   b. Sustaining | 175.00 |
   c. Life | 375.00 |
   d. Associate | 360.00 |

   TOTAL | 3,615.00 |

2. INSTITUTIONAL MEMBERSHIPS | 1,500.00 |

Journal of the Arkansas Academy of Science, Vol. 52 [1998], Art. 3
Published by Arkansas Academy of Science, 1998
3. PROCEEDINGS, SUBSCRIPTIONS 5,161.30
4. PROCEEDINGS, MISC. SALES 200.00
5. PROCEEDINGS, PAGE CHARGES 4,960.00
6. INTEREST
   a. Interest Bearing Checking Account (1/97 - 7/97) 99.14 99.14
7. ANNUAL MEETING 2,711.15
8. ENDOWMENT DONATIONS
   a. Dwight Moore Endowment 30.00
   b. AAS Endowment 4,049.29
   c. AAS Graduate Research 125.00
   d. AAS Undergraduate Research 125.00
   e. AAS Publication 25.00
   TOTAL INCOME $23,491.88

Financial Statement, Arkansas Academy of Science
EXPENSES: 1 January 1997 to 31 December 1997
1. AWARDS
   a. Conway Trophy & Awards, Plaques - Arkansas Science Talent Search (#695, #001) 318.00
   b. Arkansas Science Fair Association (#687) 450.00
   c. Arkansas Junior Academy of Science (#688) 250.00
   1,018.00 1,018.00
2. PROCEEDINGS
   a. Stan Trauth - Editorial Consultation and Travel Vol. 50 (#679) 200.00
   b. Creative Multigraphics Vol. 50 (#684) 11,940.75
   c. Joy Trauth - Editorial Consultant Vol. 51 (#673) 500.00
   12,640.75 12,640.75
3. OFFICE EXPENSES
   a. Secretaries Office - John Rickett (#693) 520.83
   b. Treasurer’s Office - Joyce Hardin (#693) 10.50
   531.42 531.43
4. ANNUAL MEETING 1,795.25
5. NEWSLETTERS
   a. UALR - Postage Fall 1996 Newsletter (#678) 58.69
   b. Kwik Print - Spring 1997 Newsletter (#680) 287.55
   c. UALR - Postage Spring 1997 Newsletter (#681) 57.30
   403.54 403.54
6. DUES
   National Association of Academies of Science (#602) 62.50
7. BANK CHARGES
   Mercantile Bank - New checks and deposit slips 70.65
8. SERVICE CHARGES
   Union Bank - Monticello 19.90
9. TRANSFER TO CD (Unrestricted) 4,000.00
TOTAL EXPENSES $20,542.02

4. Stan Trauth, Journal Editor: Stan presented a copy of Volume 51; it is larger and less expensive than Volume 50 and explained that he had worked with a different printer. Stan also presented his plan for restructuring the Editor’s office; he proposes an Editor-in-Chief, a Managing Editor and a better organized group of Associate Editors; and asked for discussion. No discussion came. Bill Shepherd moved (2nd: Hemmati) the plan be accepted. Daly suggested that Stan move up to Editor-In-Chief and occupy that office for two years during the transition. Bill Shepherd suggested that both Editors should be on same campus for ease of working together. Stan agreed to discuss it.

5. David Saugey, Newsletter Editor: Saugey asked for specific news items and for individuals to serve as campus representatives or spokespersons to gather information and send it to him. He also explained that time sequencing in getting meeting information may cause the Newsletter to be a little late sometimes—just be patient or call him. Saugey moved (2nd: Hemmati) that the Academy set aside $500 to support the preparation and mailing of the Newsletter over the coming year.

6. Mike Matthews, Nominations Committee (Mike Rapp and Art Johnson, members): Matthews distributed a list of two nominees, William Willingham (Chemistry, UAPB) and Mark Draganjac (Chemistry, ASU). Daly moved (2nd: Hemmati) to accept the committee’s report. McConnell asked for nominations from the floor but none came.

7. Doug James, Biota Committee: James not present; no report.

8. Jim Daly, Development Committee: Daly plans to send out recruitment letters to campus administrators with information regarding the Academy and encourage them to encourage their people to become involved with the Academy. Matthews moved (2nd: Hemmati) to accept Daly’s report.


10. Tom Palko, Junior science & Humanities Symposium: Palko not present; McConnell read a report (Appendix A).

11. Bob Skinner, Junior Academy of Science: Skinner not present; McConnell read a report (Appendix C).

12. Mike Rapp, State Science Fair Assn: Rapp not present;
McConnell read a report in which Rapp requested $450 and $250 for the State Science Fair Assn. and Junior Academy of Science, respectively, for the coming year’s activities. Hemmati moved (2nd: Joe Guenter) moved to accept the read reports and the funding requests (Appendix B).


14. McConnell appointed Mostafa Hemmati, Chair, Wayne Gray and Rudy Eichenberger as the Resolutions Committee.

15. McConnell appointed an ad hoc Constitution Committee (John Rickett, Chair, and __________) to work on changes pertaining to the journal title and the editorial office.

16. Henry Robison, Historian: Robison not present; McConnell read a report.

17. McConnell asked for additional old business; none came.

18. McConnell asked for new business:
Daly suggested the Academy draft a letter to President Sugg to support the continuance of operation of the University of Arkansas Press. Daly moved (2nd: Hardin).

19. McConnell made the following announcements:
   a. There will be no Sigma Xi breakfast;
   b. Authors planning to publish must turn in manuscripts to section chairs or Stan Trauth;
   c. Section chairs need to keep their sessions on schedule;
   d. The Arkansas Avian Viability Assessment Committee will meet tomorrow immediately following the 2nd business meeting.

20. McConnell adjourned the meeting at 1155.

SECOND BUSINESS MEETING
4 APRIL 1998

Number present: 58
President-Elect Rose McConnell called the meeting to order at 1113 hrs. and recognized the following persons for reports/business items:

1. Secretary: J. Rickett noted that copies of minutes of last year’s business meetings were available at the door and reminded attendees of yesterday’s presentation of the minutes and moved their approval. No corrections were received and minutes were approved by voice vote.

2. Nominations Committee: (M. Mathews, M. Rapp and A. Johnson) Mark Draganjac and William Willingham have been nominated for the Vice President’s election. McConnell asked for nominations from the floor, none came, and Doug James moved (2nd: Walt Godwin) that nominations ceased. Motion passed, and ballots were distributed.

3. Treasurer: J. Hardin noted that copies of the financial report were available at the door, then reviewed the Academy’s income, investments and expenses. She observed that the pre-payment of page charges has given us more breathing room in that we can now pay for the Journal without cashing in CDs. She also pointed out that David Saugey has been instrumental in setting up a way to contribute leftover monies from another meeting to the Academy. McConnell then recognized the Auditing Committee which reported that the books were in order. The Treasurer’s financial statement was approved.

4. Biota Committee: D. James reported that no new lists have been received, so they are beginning the process of reviewing the old lists to update and prepare them for “commercial” publication. Trauth moved (2nd: Mathews) to accept his report. Passed.

5. Avian Viability Assessment Committee: Tom Foti described the function of the committee as providing the Natural Heritage Commission and Arkansas Game & Fish Commission with information to rank and prioritize management/restoration projects because of limited funds. The thrust will move later to other faunal groups.

6. Historian: H. Robison reported this is the eighth time for the Academy to meet on the UAMS campus. Other years were 1943, 1944, 1945, 1947, 1949, 1958 and 1989.

7. Journal Editor: Stan Trauth described his proposed reorganization of the journal preparation process. He proposed that a new position, Editor-in-Chief, be erected, that the current Editor’s position be renamed “Managing Editor” and be elected. After serving as Managing Editor, the individual would move up to Editor-in-Chief. Considerable discussion followed regarding status in the Executive Committee, justification, length of terms, and other details. Trauth moved (2nd: Daly) for adoption and motion passed by voice
vote. McConnell charged the ad hoc Constitution Committee to affect the proper alterations then appointed another ad hoc committee (Stan T., D. Kluender and _______ ) to find a new editor. (Secretary’s Note: normally the details of such a change in officer structure are hammered out by an ad hoc committee first [not by a constitution revision committee], then brought to the membership for final discussion and approval (or denial). I think our Constitution would still adjure us to follow this more prudent procedure; if not, the membership may rescind this vote at next year’s meeting.

8. McConnell called for volunteers to assist Rickett on the ad hoc Constitution Committee; no volunteers appeared.

9. Newsletter Editor: Saugey said he will be contacting institutions and individuals for information for the Newsletter. He also reminded Academy members to understand that he must receive information regarding the next meeting before he can prepare the Newsletter. Consequently it may be a little later than first anticipated.

10. Ancillary organizations:
   a. Westinghouse/Arkansas Science Talent Search: no representative was present to report; we assumed they need $200 of continued funding for the coming year.
   b. Junior Science & Humanities Symposium: (see Appendix A for report)
   c. State Science Fair Association: (see Appendix B for report); continued funding request of $450.
   d. Junior Academy of Science: (see Appendix C for report); continued funding request of $250.
   e. Robison moved (2nd: W. Godwin) that we continue these levels of support. Motion passed.

11. McConnell recognized Jim Daly to restate his motion that the Academy to draft a letter of support for the continuance of operation of the University of Arkansas Press. Passed.

12. Resolutions Committee (Mostafa Hemmati, Wayne Gray and Rudy Eichengerger): (see Appendix D for resolutions). Kluender moved (2nd: Godwin) that the resolutions be accepted. Passed.

13. Awards Committee: W. Gray (for Mike Soulsby) and Amy Wilson, representing the Arkansas Environmental Federation: (see Appendix E for list of awardees).

14. Meeting results and data (W. Gray): 230 registrations (about 100 pre-registered); 125 attended the banquet; 87 presentations, 45 of which were student papers.

15. McConnell called for any other old business; none came.

16. McConnell then announced the new Vice-President is Mark Draganjac.

17. McConnell asked for new business:
   a. Calvin Cotton suggested we need a permanent website. McConnell asked for a motion to set up a committee. Cindy Kane so moved (2nd: Matthews); approved, and McConnell named Mark Draganjac, Calvin Cotton and Walt Godwin to an ad hoc committee. Cotton also volunteered to work on a new logo for the Academy and moved (2nd: Robison) that we commission him to do so. Motion passed. Cotton would welcome input.
   b. No other new business came forth.

18. McConnell made the following announcements:
   a. Pick up and deliver unclaimed journals back to your respective campuses;
   b. Give manuscripts to Stan Trauth;
   c. The Avian Viability Committee will meet immediately following this one;
   d. Thanks to Wayne Gray for chairing the Local Arrangements Committee.

19. McConnell recognized Dick Kluender who presented Bob Wiley with a plaque of appreciation for his 10-year (two terms) service as Treasurer.

20. McConnell then recognized out-going President Jim Daly with a plaque of appreciation. Daly then officially recognized Rose McConnell as the incoming President and adjourned the meeting at 1337 hrs.

Respectfully submitted,

John Rickett, Secretary
20 April 1998

APPENDIX A

JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM

The 32nd Arkansas JSHS was held on Arkansas Tech University campus March 27-29, 1998. Science students and teacher delegates from across the state attended the program. Featured were the oral presentations of the 16 student finalists in the paper competition, lectures by scientific
researchers, tours of the science and engineering depart-
ments at ATU and a poster contest to display individual stu-
dent research.

Geoffrey Schmidt from Little Rock Central High School
was awarded first place in the oral research paper presenta-
tion and received a $4,000 scholarship from the National
JSHS. He and five other students were selected to attend the
National JSHS in Albuquerque, NM later this month. Geoff
will present his paper on computer programming, “Two new
tools for visible surface determination”, and will compete in
the national student research paper competition. Tom Palko,
Director, will accompany the students to the national sym-
posium. Four other students received scholarships to
Arkansas Tech University. Cash prizes were awarded to the
winners in the two divisions of the poster contest, the small
schools and the large or magnet schools.

Delegates enjoyed musical productions, which included
operetta selections and a program of harpsichord, piano and
organ music by faculty and students of ATU. The delegates
also participated in social mixers which enabled them to
become better acquainted.

The 33rd Arkansas JSHS will be held at Arkansas Tech

Tom Palko, Director
3 April 1998

APPENDIX B

STATE SCIENCE FAIR ASSOCIATION

Thank you for the support the Academy has provided
for the past 15 years, both in terms of members of the AAS
serving as judges and in terms of financial support. This
memo serves as a report of the Science Fairs held in
Arkansas during 1998:

Central (held at UAMS, Mar 14): Margie Snider, fair
director, and Marian Douglas, Jr. Acad. director. 340 stu-
dents participated.

Northcentral (Lyon College, Batesville, Mar 13): Beverly
Meinzer, fair director, and Kathy Campbell, Jr. Acad. direc-
tor. 266 students participated.

Northeast (Ark. State Univ., Jonesboro, Feb 27, 28):
Larry Mink, fair director, and Ron Johnson, Jr. Acad. direc-
tor. 136 students participated.

Northwest (Univ. of Ark. at Fayetteville, Mar. 13): Lynne
Hehr, fair and Jr. Acad. director. 341 students participated.

Southcentral (Henderson State Univ., Arkadelphia, Mar
6): Joe Bradshaw, fair director, and Lisa Cobb, Jr. Acad.
director, 153 students participated.

Southeast (Univ. of Ark. at Monticello, Mar 13): Jim
Leslie, fair director. 235 students participated.

Southwest (Southern Ark. Univ., Magnolia, Mar 13):
Daniels, fair director. 213 students participated.

Westcentral (ASMS, Hot Springs, Mar 2-6): Alecia
Castleberry, fair director, and Shane Wilbanks, Jr. director.
225 students participated.

Approximately 260 students are expected to register for
the state science fair, to be held April 3, 4 at the Univ. of
Central Arkansas in Conway.

A request for funding for the Arkansas Science Fair
Association follows:

“The Arkansas Science Fair Association requests the
Arkansas Academy of Science to continue its support for
the past 12 years of $50 to each of the nine science fairs in
Arkansas that will send students and teachers to the
International Science and Engineering Fair, to be held in
May, 1998 in Fort Worth, Texas. The total contribution
being sought is $450.”

Should the membership approve this request, please
make the check payable to “Arkansas Science Fair
Association” and mail it to Dr. Mike Rapp, Department of
Chemistry, Univ. of Central Arkansas; Conway, AR 72035.

Mike Rapp, Director

APPENDIX C

ARKANSAS JUNIOR ACADEMY OF SCIENCE

Seventy-four students from six of the eight regions and
representing 12 high schools participated in the AJAS state
contest held at the Univ. of Central Arkansas on April 12,
1998 follow:

students: 74 (+9)

entries: 70 (+7)

9th grade: 4 (+3)

10th grade: 14 (-4)

11th grade: 32 (+8)

12th grade: 20 (+2)

(four did not list grade)

Nine school had students who won awards:

ASMS: 23 category awards; two overall
Central: 13 category awards; four overall, top student
Mills: five category awards; one overall
Harmony Grove: four category awards

Three students, who won the Junior/Sophomore
Division in 1997, and two teacher-sponsors attended the
American Junior Academy of Science. The students were
Secretary's Report

Geoffry Schmidt, Freddy Nguyen and Sapan Shah, and the teachers were Gary Hufford and Gary Earleywine. The Arkansas Junior Academy paid half of the travel and registration fees for one student and one teacher, a total of $820. This meeting was held in conjunction with the meeting of the American Association for the Advancement of Science.

The Arkansas Junior Academy thanks the Academy of Science for its continued encouragement and monetary support and requests continued support of $250 for the coming year’s activities.

Robert D. Skinner, Director
3 April 1998

(Secretary’s Note: an inconsistency between this report and Rapp’s report occurs regarding the date of meeting (April 12 vs. April 13). Rapp’s report states the two organizations met together.

George Harp

APPENDIX D

RESOLUTIONS

BE IT RESOLVED that we, the membership of the Arkansas Academy of Science, offer our sincere thanks to the University of Arkansas for Medical Sciences for hosting the 1998 meeting of the Arkansas Academy of Science. In particular, we thank the Local Arrangements committee, Wayne Gray, Chair, George Blevins, Parimal Chowdhury, Jim Daly, Kim Fifer, Cindy Kane, Lisa Maddox, Mark McCammon, Dorothy Miles and Michael Soulsby, and all the student workers and staff who collectively contributed to a very successful meeting. Appreciation is expressed for the use of the excellent facilities and the hospitality shown to us by all University of Arkansas for Medical Sciences personnel. We truly appreciate Dr. Gregory Wilson and his graphic presentation of “Space Science: NASA’s Investment in America’s Future.”

“The Academy recognizes the important role played by the various section chairpersons and expresses sincere appreciation to John Bush and Joyce Hardin (Aquatic and Environmental Sciences/Invertebrate Zoology); Tom Kelly and Dennis Baeyens (Biomedical Sciences), Cesar Compadre, John Sorenson and Ali Shaikh (Chemistry); Robert Engleken, W. J. Braithwaite, Roger Hawk and Edwin Braithwaite (Physics/Physical Science); Marie Chow and Scott Kirkconnell (Microbiology); Stan Trauth and Gary Heidt (Vertebrate Zoology).

A special thanks is owed to individuals devoting considerable time and energy to judging student papers: Mostafa Hemmati, Richard Komoroski, Rudy Eichenberger, Jeff Robertson, Jerry Webb, Victor Samokysyn, Chidambaram Bhuvaneswren, Lamar Setliiff, Jay Gandy, Richard Kluender, Hershel Conway, David Wennerstrom, David Davies, Midhael Matthews, Robert Wiley and Clifton Orr.

The Academy appreciates UAMS for sponsoring the Friday evening social, the Arkansas Environmental Federation for funding the undergraduate presentation awards and Sigma Xi for funding the graduate presentation awards.

We express gratitude to the various directors of the science and youth activities which are supported and/or supervised by the Academy: Jim Edson (Chair of the Science Education Committee), Mike Rapp (Director of the Arkansas State Science Fair Association), Tom Palko, (Director of the Junior Science & Humanities Symposium, Steve Runge (Director of the Westinghouse/Arkansas Science Talent Search and Robert and Raynell Skinner (Co-directors of the Junior Academy of Science).

We wish to thank all those who served as directors at the regional science fairs and Junior Academy meetings: (see Appendix B).

The continued success of the Academy is due to leadership. We offer sincere thanks to our officers for another excellent year: James Daly (President), Rose McConnell (President-Elect), Mostafa Hemmati (Vice President), John Rickett (Secretary), Joyce Hardin (Treasurer), Richard Kluender (Past President), Stan Trauth (Editor), David Saugey (Newsletter Editor) and Henry Robison (Historian). In addition, the Academy expresses appreciation to all who contributed time and effort on various committees of the Academy.

Finally, we congratulate all who presented papers and posters at this meeting. Student participants are especially recognized since their continued efforts and contributions will be directly responsible for the future success of the Academy and its programs for the continuing improvement and advancement of science education and research in Arkansas.

Respectfully submitted,
Mostafa Hemmati, Chair
Wayne Gray
Rudy Eichenberger

APPENDIX E

STUDENT AWARDS

Physics undergraduate:
Clayton Workman (ASU), “Improvement in the electroplating of CuInS2”
Anthony Bednar (ASU), “Infrared laser spectroscopy of jet cooled molecules”
Candance Lindsey (ASU), “Infrared laser spectroscopy of jet cooled manganese pentacarbonyl halides”

**Physics graduate:**
- Timothy Wofford (UALR), “A study of ruthenium oxide coating for use in thin film capacitors”
- Richard Homard (UALF), “Low power diode lasers for raman spectroscopy”

**Chemistry undergraduate:**
- James Sheets (UALR), “4-Nitrobiphenyls: synthesis and mutagenecities”
- Kathy Herrin (Harding), “Tropospheric lifetime of hydrofluorocarbons”
- Justin Scarbrough (ASU), “Stereoselective synthesis of beta-deuterated, leucine from, asymmetric reduction of isobutyryl (aldehyde-d) for use in solution-phase protein structure determination”

**Life Sciences undergraduate:**
- Ruussel Robertson (Hendrix), “G proteins and calcium channels affect halothane sensitivity in Caenorhabits elegans”
- Brad Clark (UCA), “Differential gene expression in C3H-1OT1/2 cells undergoing apoptosis due to intra-cellular acidification”

**Life Science graduate:**
- Lisa Maddox (UAMS), “The role of inducible nitric oxide synthase during renal ischemia-reperfusion injury”
- Allen Dye (UAMS), “Giardiasis in Arkansas: Age distribution and the Guadina season”
- Chaojie Zhang (UAMS), “Angiotensin II signal activates the NO-cGMP pathway in rat proximal tubules”

**Environmental Sciences undergraduate:**
- Lori Sale (ATU), “Coliform evaluation and source determination for the river valley waterways”
- Chad Hargrave (UAF), “Current status of Arkansas darter (Etheostoma cragini) and least darter (E. microperca) in Arkansas”
- Amy Hardwick (UAF), “The Amoeba biota of Piney Ditch Swamp, Monroe County, Arkansas”

**Environmental Sciences graduate:**
- Robin Roggio (UAF), “Effects of agricultural practices on water quality and nutrient transport in two small watersheds, northwestern Arkansas”
## MEMBERS 1997

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