

1999

83rd Annual Meeting, 1999. Secretary's Report and Financial Statement

John D. Rickett

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JOURNAL ARKANSAS ACADEMY OF SCIENCE

ANNUAL MEETING 2-3 APRIL 1999
ARKANSAS TECH UNIVERSITY

Rose McConnell
President

Mostafa Hemmati
President-Elect

John D. Rickett
Secretary

Joyce Hardin
Treasurer

NAAS Delegate

Henry Robison
Historian

Secretary's Report

MINUTES OF THE 83RD MEETING

FIRST BUSINESS MEETING 2 APRIL 1999

expenses and income, reviewed the past year's financial operations. Some discussion for clarification and additional information followed.

Number present: 15

1. Rose called the meeting to order at 1125 hrs. with a welcome, then recognized the following individuals/committees for reports:
2. Local Arrangements Committee Chair (Mostafa Hemmati):
 - (a) the registration table has been set up in the lobby of McEver Hall;
 - (b) pre-registration packets are ready (165 pre-registrations were received, including 80 requests for banquet ticket);
 - (c) the journal distribution table is nearby;
 - (d) the banquet speak will be Dr. Dawn Bonnell (U. Penn.) (the Office of Academic Affairs [Dr. Larry Robinson] is paying her transportation expenses and honorarium);
 - (e) 84 abstracts were received;
 - (f) a tour of the new library will be offered at 4:00 Friday;
 - (g) a mixer will occur at 5:00 at the Holiday Inn (shuttles will be available);
 - (h) the banquet is set for 6:00 in the cafeteria;
 - (i) refreshments will be available at break times during paper sessions;
 - (j) the judging panel has been named.
3. John Rickett, Secretary:
 - (a) presented the minutes of 1998 Busienss Meetings for review and correction (the minutes were approved by the Executive Committee at its Fall 1998 meeting in order to publish them in the journal);
 - (b) membership report: Rickett asked for a motion to approve minutes (Hemmati moved; 2nd: Wiley).
4. Joyce Hardin, Treasurer: referring to a handout of

FUNDS

	1997	1998
Beginning Balance - 1 January	\$20,512.95	\$22,740.91
Net Gain	2,227.96	2,425.37
CLOSING BALANCE - DECEMBER 31	\$22,740.91	\$25,166.28

DISTRIBUTION OF FUNDS

Checking Account (Mercantile Bank, Conway, AR)	\$ 2,949.86	\$ 4,379.19
Certificates of Deposit		
Dwight Moore Endowment (Mercantile Bank, Conway, AR) No. 175192 - 5.0% Int.	\$ 3,646.15	\$ 3,963.83
Life Membership Endowment (Mercantile Bank, Conway, AR) No. 175193 - 5.0% Int.	\$12,144.90	\$13,203.06
CD Unrestricted (Mercantile Bank, Conway, AR)	\$ 4,000.00	\$ 3,620.20
TOTAL	\$22,740.91	\$25,166.28

Respectfully Submitted,

Dr. Joyce M. Hardin, AAS Treasurer

Financial Statement, Arkansas Academy of Science

INCOME:	1997	1998
1. ANNUAL MEETING	\$ 2,711.15	-0-
2. ENDOWMENT		
AAS Endowment Unrestricted	\$4,135.30	
	\$4,135.30	
	\$ 5,245.29	\$ 4,135.30

3. ENDOWMENT DONATIONS		
a. AAS Unrestricted	\$ 125.00	
b. Dwight Moore	\$ 25.00	
	\$ 150.00	
	-0-	\$ 150.00
4. INTEREST (Checking Account)	\$ 99.14	-0-
5. INDIVIDUAL MEMBERSHIPS		
a. Associate/Student	330.00	
b. Regular (Individual)	3,425.00	
c. Sustaining	245.00	
d. Life	525.00	
	\$4,525.00	
	\$ 3,615.00	\$ 4,525.00
6. INSTITUTIONAL MEMBERSHIPS	\$ 1,500.00	\$ 1,700.00
7. MISCELLANEOUS	-0-	\$ 159.00
8. PROCEEDINGS		
a. Miscellaneous Sales	55.00	
b. Page Charges	6,720.00	
c. Subscriptions	895.00	
	\$ 7,670.00	
	\$10,321.30	\$ 7,670.00
9. T-SHIRT (General Endowment)		\$ 714.00
TOTAL INCOME	\$23,491.88	\$19,053.30

Financial Statement, Arkansas Academy of Science

EXPENSES:

	1997	1998
1. ANNUAL MEETING	\$ 1,795.25	\$ 163.64
Plaques - Dick Kluender (#606)		
2. AWARDS		
a. Conway Trophy & Awards, Plaques for Arkansas Science Talent Search (#617)	244.09	
b. Arkansas Science Fair Association (#614)	250.00	
c. Arkansas Junior Academy of Science (#615)	250.00	
d. Student awards	250.00	
Justin Scarbrough (#611) James Sheets (#609)		
Robin Roggio (#616) Kathy Herrin (#610)		
e. David Saugey Teachers Workshop (#621)	250.00	
	\$ 1,444.09	
	\$ 1,018.00	\$ 1,444.09
3. BANK CHARGES		
Mercantile Bank - New checks and deposit slips	\$ 1,018.00	\$ 1,444.09
4. DUES		
National Association of Academies of Science (#608)	\$ 62.50	\$ 62.50
5. MISCELLANEOUS		
a. Ed Griffin Travel to AAS Conference (#612)	\$188.00	
b. Stan Trauth Page Charge Refund (#607)	40.00	
6. NEWSLETTERS		
a. Kwik Print - Spring 1998 Newsletter (#604)	\$314.01	
b. UALR - Postage Spring 1997 Newsletter (#619)	403.72	
	\$ 403.54	\$ 717.73

7. OFFICE EXPENSES	\$ 531.43	-0-
8. PROCEEDINGS		
a. Stan Trauth - Editorial Consultation and Travel Volume 51 (#605)	200.00	
b. Pinpoint Color Volume 51 (#618)	14,308.01	
c. Joy Trauth - Editorial Consultant Volume 52 (#620)	500.00	
	15,008.01	
	\$12,640.75	\$15,008.01
9. BANK SERVICE CHARGES	\$ 19.90	-0-
10. TRANSFER TO CD (Unrestricted)	\$4,000.00	-0-
TOTAL EXPENSES	\$20,542.02	\$17,623.97

5. *Journal* Editor: Stan Trauth presented Volume 52; it is about 75 pages smaller; the approximate cost is about \$11,000. Trauth pointed out a few errors caused by a new typesetter (from lack of knowledge of scientific terminology and notation). A motion to accept the report was made by Daly (2nd: Draganjac).
6. *Newsletter* Editor: David Saugey...he is leaving the office, but moved that \$750 be set aside for the preparation of one issue of next year's newsletter (2nd: Daly). Rose issued a plea for an on-the-spot nomination for a new Newsletter editor.
7. Historian: Henry Robison announced this is the 83rd Annual Meeting of the Arkansas Academy of Science and the fifth time to meet on the Arkansas Tech University campus. Previous years of meeting here were 1960, 1970, 1977 and 1988.
8. Committee Reports:
 - a. Biota Committee: Doug James has a new list of snails of Arkansas (copies will be available); he is in the process of scanning the previous lists onto disk and plans to return those lists to their authors for accuracy checks and upgrading. As of a month ago, the UA Press has not appointed a new director, and James isn't pushing for professional publication until then. James expressed desire for a website and asked our opinion of that form of information dispersal. The Arkansas Species Viability group has a list of bird species of special concern and is working on a list of plants (Kim Smith will report on it at the Second Business Meeting).
 - b. Editorial staff revision: Stan Trauth explained the proposed reformatting of titles and duties—the Editor-in-Chief will be primarily responsible for formatting the journal and working with the printer, whereas the Managing Editor will be primarily

responsible for getting the manuscripts reviewed and revised. Stan moved (2nd: Spears) the approval of this change.

- c. Constitution Revision Committee: Rickett presented and explained proposed changes—(1) journal title changes, (2) restructuring of the editorial staff and makeup of the Publications Committee, and (3) cleaning up some language in the descriptions of the Publicity and Science Education Committees. M. Hemmati moved to accept (2nd: Daly).
- d. Nominations Committee: Jim Daly announced that John Rickett (UALR) and Tim Kral (UAF) have been nominated for Vice President; Stan Trauth has been nominated for Editor-in-Chief (pending membership approval of the proposed restructuring); and no nominee for Newsletter Editor has been obtained. Daly suggested if we get more than two nominees for any office, we have a runoff to get a definite majority (instead of a plurality).
- e. WebPage progress: Rose presented a progress report, explaining some of the anatomy of the new website and the information categories, links, etc. Inquiries should be directed to Walt Godwin (UAM).
- f. Junior Academy of Science and Science Fairs: Rickett referred to a report (Appendix A) received from Mike Rapp listing the regional fair directors, student participation and monetary requests (\$450 for Science Fairs and \$250 for Junior Academy for the next year's operations). Moved by Dan Magoulick; 2nd: Wiley.
- g. Science Talent Search: Dan Magoulick reported the usual activities and successes of the Science Talent Search (no written version was submitted) and requested \$244.09 to cover award expenses. S. Trauth moved; 2nd: D. James.
- h. Auditing Committee: President McConnell asked for volunteers. Bob Wiley volunteered to chair it and will find someone else to help.
- i. Resolutions Committee appointment: Rose asked for volunteers and when none came, appointed Mark Draganjac to chair it, and M. Hemmati volunteered to help.

9. Old Business: None came.

10. New Business:

Richard Spears announced there will be an organizational meeting in room 204 McEver for the Ouachita Mountains Biological Station Board of Governors and Advisory Board.

11. Presidential announcements:

- a. The Sigma Xi breakfast will be at the Holiday Inn Saturday morning.
- b. Authors are to submit manuscripts for publication to section chairs or editor, and section chairs should make efforts to stay on time.
- c. The banquet will start at 6:30, and Dr. Dawn Bonnell will be the featured speaker.
- d. A tour of the new library will be offered at 4:00 Friday.

12. President McConnell adjourned the meeting at 12:37.

SECOND BUSINESS MEETING

3 APRIL 1999

Number present: 51

1. President McConnell called the meeting to order at 1200 hrs. and recognized the following individuals/committees for review and/or action:
2. Secretary Rickett presented the minutes of the 1998 Business Meetings by noting copies were available at the entry doors. No corrections were received, so Rickett moved their acceptance (2nd: M. Hemmati). Passed
3. Nominations Committee Chair Daly announced the candidates for Vice President are John Rickett (UALR) and Tim Kral (UAF). President McConnell called for nominations from the floor, but none came. Godwin moved (2nd: Robison) that nominations cease. Passed. Daly announced that Mike Soulsby has been nominated for Secretary. President McConnell asked for nominations from floor, but none came. Doug James moved (2nd: Hemmati) that nominations cease and Soulsby be elected by acclamation. Passed. Hemmati nominated Jeff Robertson for Newsletter Editor. Robison moved (2nd: Hemmati) that nominations cease and Robertson be elected by acclamation. Passed. Ballots for the election of Vice President were passed out and collected.
4. Treasurer Hardin alerted attendees to copies of a financial statement available at the doors and briefly reviewed the items of income and expenses. The journal is our single largest expense, but early payment of page charges is assisting greatly in the management of accounts. No discussion followed, and President McConnell recognized Robert Wiley (Chair, Auditing Committee) who reported that the Treasurer's books are in good order. Hemmati moved (2nd: Robison) to accept the financial report. Passed.
5. Biota Committee: Doug James reported that five lists

- have been recently submitted (four groups of insects and snails). The list of vascular flora of Arkansas is on a website at UAF. He also offered to provide individual copies of currently held lists to anyone willing to pay copying costs. The Arkansas Species Viability group has compiled a list of birds and is preparing a list of plants in reference to sensitive habitat areas. (Kim Smith didn't report).
6. **Historian:** Henry Robison reported that this is the 83rd annual meeting of the Academy; the fifth time to meet at Arkansas Tech University. Other years the meeting occurred here were 1960, 1970, 1977 and 1988.
 7. **Journal Editor:** Stan Trauth announced members' copies are available at the table if not already obtained. This issue is smaller. A few errors were noted. Trauth requested that institutional representatives take back appropriate copies to their home campuses. Stan asked for \$500 for editorial assistance and \$200 for the Editor's stipend. Moved by Hemmati (2nd: Braithwaite). George Harp pointed out that the total page charges collected averages out to slightly more than \$31 per page which means approximately 25 percent of pages aren't accounted for in the per-copy/per-page cost analysis. Hardin agreed to check it out.
 8. **Newsletter Editor:** David Saugey briefly reviewed the Newsletter preparation process and noted the cost is quite heavy (probably would be less if we could offer it "on line"). He asked for \$750 to support the cost of preparing one issue in 1999-2000. Hemmati moved; (2nd: Robison).
 9. **President McConnell** re-introduced the proposed changes in the editorial staff—the Editor-in-Chief will work with the printer, while the Managing Editor will work mostly with manuscripts and the reviewing and revising process. This restructuring includes a new expense of \$300 stipend for the Managing Editor. McConnell opened the floor for discussion. A little came but none that caused any revision of the proposal. Motion (from First Business Meeting) was re-introduced and passed. Stan Trauth was nominated for the new office of Editor-in-Chief. Watson moved (2nd: ?) that nominations cease and Trauth be elected by acclamation. Passed.
 10. **Constitution Revision Committee:** Rickett reviewed proposed changes (details presented in First Business Meeting). Doug James moved. (2nd: Hemmati). Passed.
 11. **Science Talent Search** (Magoulick not present); request for \$244.09 was restated.
 12. **Science Fairs/Junior Academy:** Rickett referred to a report sent in by Mike Rapp (basic contents and monies requested) (Appendix A).
 13. **President McConnell** revisited all the motions requesting monies (\$500 for editorial assistance; \$300 for Managing Editor; \$200 for Editor-in-Chief; \$450 for Science Fairs; \$250 for Junior Academy; \$244.09 for Science Talent Search; and \$750 for Newsletter and a motion to approve disbursal (First Business Meeting). Motion passed.
 14. **Resolutions Committee:** Mark Draganjac read resolutions (Appendix B). Braithwaite moved (2nd: ?) their acceptance. Passed.
 15. **Student awards:** A member of the judges panel announced student paper winners in their respective categories (Appendix C) and thanked the Arkansas Environmental Federation and Sigma Xi for sponsoring the undergraduate and graduate awards, respectively.
 16. **McConnell** recognized M. Hemmati for a meeting review—over 200 people registered for the meeting, 85 attended the banquet, and 84 papers were presented.
 17. **McConnell** announced the Academy's web page is "http://cotton.uamont.edu/~aas/". Rose then described the anatomy of its setup. There may be a few glitches so be patient; many thanks to Walt Godwin.
 18. **McConnell** then asked for other old business, but none came.
 19. **McConnell** then referred to new items of business:
 - a. John Rickett is the new Vice President.
 - b. We are setting up an e-mail list—all members will be initially put on the list, and the first message will include instructions on how to get off the list if anyone doesn't want to be on the list. Send any questions or suggestions to Walt Godwin at "godwin@uamont.edu". Saugey suggested we give Godwin a vigorous round of applause as thanks—so done.
 - c. J. D. Wilhide suggested we purchase a couple of tablecovers with our name and logo. Rose commissioned Joyce Hardin to investigate the cost of such items and report at the Fall ExCom meeting.
 - d. A representative for the Arkansas Environmental Competition took the floor and explained the activities of the organization. Permission was requested

(and granted) to send us some information, and the Executive Committee can consider it at their next meeting.

20. Announcements (McConnell):

- a. individuals from different campuses pick up journals for colleagues who are not here and take them back
- b. turn in manuscripts to Trauth or Saugey.
- c. thanks to Mostafa Hemmati for chairing the Local Arrangements Committee and to Dr. Larry Robinson (ATU Office of Academic Affairs) for supporting the banquet speaker.
- d. the 2000 meeting will be in Hot Springs, co-sponsored by the U.S. Forest Service and the Arkansas School for Math & Sciences.

21. Recognitions:

- a. Stan Trauth, for his work as Journal Editor (with plaque).
- b. John Rickett, for 10 years of service as Secretary (with plaque).

22. Rose introduced Mostafa Hemmati as the incoming President and turned the gavel over to him. Hemmati offered his thanks to all attendees, bade all adieu from the meeting, and adjourned the meeting at 1325 hrs.

Respectfully submitted,

John Rickett, Secretary
May-June 1999

APPENDIX A

STATE SCIENCE FAIR ASSOCIATION

Thank you for the support the Academy has provided for the past 16 years for AAS members serving as judges and for financial support. Following is a report of the Science Fairs and Junior Academy of Science Meetings held in Arkansas during 1999:

Central (held at UAMS, Feb 27): Gary Earleywine, fair director, and Marian Douglas, Jr. Acad. director; participants: 323.

Northcentral (held at Lyon College, Batesville, Feb 19): Beverly Meinzer, fair director, and Kathy Campbell, Jr. Acad. director; participants: 172.

Northeast (held at AR State Univ., Jonesboro, Feb 19-20): Larry Mink, fair director, and Ron Johnson, Jr., Jr. Acad. director; participants: 125.

Northwest (held at Univ. of AR, Fayetteville, Mar 5): Lynne Hehr, director of fair and Jr. Acad.; participants: 469.

Southcentral (held at Henderson State Univ., Arkadelphia, Feb 19): Jules Mollere, fair director, and David Brooks, Jr., Jr. Acad. director; participants: 153.

Southeast (held at Univ. of AR, Monticello, Mar 5): Bill Nicholson, fair director; participants: 280.

Southwest (held at Southern AR Univ., Magnolia, Feb 26): Tim Daniels, fair director; participants: 611.

Westcentral (held at AR Sch. for Math & Sci., Hot Springs, Feb 24-26): Shane Willbanks, fair and Jr. Acad. director, participants: 110.

Approximately 280 students are expected to register for the state science fair, and 70 students for the state Junior Academy of Science meeting, to be held March 19-20 in Conway at Univ. of Central Arkansas. Mike Rapp is the director of the state science fair, and Bob and Raynell Skinner are (state) co-directors of the Junior Academy of Science.

With this report, we are requesting the Academy continue its funding for this year's science fair activities (\$450 to help cover expenses for students being sent to the Intel International Science & Engineering Fair (ISEF) and state Junior Academy of Science meeting (\$250 to help send students to the American Junior Academy of Science meeting).

Last year, the AJAS sent three students and a teacher to the American Junior Academy of Science meeting in Anaheim. Over 50 students and teachers attended the ISEF in May in Fort Worth, Texas. For your information, an Arkansas student, Geoff Schmidt from Little Rock Central High School, won one of the two overall grand prizes at the 1998 ISEF. Geoff was chosen from 1100 students from over 35 countries, and this is the fourth time in the past 20 years that an Arkansas student has won one of the two grand prizes. Geoff received about \$60,000 in unrestricted scholarships and prizes, plus several trips, including one to the Nobel Prize ceremony in Stockholm.

Please offer a resolution of thanks for the work of the individuals indicated above, which could be included in the minutes published in the *Journal*, and please bring the request for funding to the members:

Request for funding for 1999 Arkansas Science Fair Association and Junior Academy of Science:

"The Arkansas Science Fair Association requests the Arkansas Academy of Science to continue its support 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, 1999, in Philadelphia. The total contribution being requested is \$450. The Arkansas Junior Academy of Science requests the Arkansas Academy of Science to continue its support of \$250 for 1999."

Should the membership approve this request, please

have the first check made payable to "Arkansas Science Fair Association" and mail it to Dr. Michael W. Rapp, Department of Chemistry, University of Central Arkansas, Conway, AR 72035. Please have the second check made payable to "Arkansas Junior Academy of Science" and mail it to Dr. Bob Skinner, Department of Anatomy, UAMS Slot 510, 4301 W. Markham, Little Rock, AR 72205.

Mike Rapp
15 March 1999

APPENDIX B

RESOLUTIONS

BE IT RESOLVED that we, the membership of the Arkansas of Science, offer our sincere thanks to Arkansas Tech University for hosting the 1999 meeting of the Arkansas Academy of Science. In particular, we thank the Local Arrangements Committee, Mostafa Hemmati, Chair, Charles Gagen, John Graham, Franklin Hardcastle, Christopher Kellner, Robert Maruca, Jeff Robertson, Darla Sparacino, Dwight Stoltzfus, Frances Terry, Ken Trantham and Tsunemi Yamashita, 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 Arkansas Tech University personnel. We truly appreciate Dr. Dawn Bonnell and her excellent presentation of "Scanning Probe Microscopy of Nanometer Scale Phenomena in Oxides".

The Academy recognizes the important role played by the various Section chairpersons and expresses sincere appreciation to Wilfred Braithwaite (Physics and Geology/Microelectronics and Engineering), Scott Kirkconnell (Biomedical Science), Chris Kellner (Terrestrial Ecology), Gerald Walsh (Invertebrate Zoology), Franklin Hardcastle and Michael Panigot (Chemistry), Joe Stoeckel (Aquatic Ecology), Tom Nupp (Vertebrate Zoology), and Gary Tucker (Plant Ecology and Botany).

A special thank's is owed to the individuals devoting considerable time and energy to judging student papers: Chris Kellner, Dwight Stoltzfus, Scott Kirkconnell, Melinda Wilkins, Tom Nupp, Doug James, Joyce Hardin, K.C. Larson, Joe Stoeckel, Richard Grippo. Dan Magoulick, Steve Gann, John Graham, Wilfred Braithwaite, Jeff Robertson, Robert Maruca, Michael Panigot and Ron Nelson.

The Academy appreciates Arkansas Tech University for sponsoring the Friday evening social, the Arkansas Environmental Federation for the funding of the undergraduate presentation awards and Sigma Xi for funding the grad-

uate 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 and Humanities Symposium), Dan Magoulick (Director of the Intel/Arkansas Science Talent Search) and Robert Skinner (Director of the Junior Academy of Science). (Sec. note: Ms. Raynell Skinner co-directs 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 A).

The continued success of the Academy is due to its strong leadership. We offer sincere thanks to our officers for another successful year: Rose McConnell (President), Mostafa Hemmati (President-Elect), Mark Draganjac (Vice President), John Rickett. (Secretary), Joyce Hardin (Treasurer), James Daly (Past President). Stan Trauth (*Journal 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. The Academy appreciates the time and effort of Walt Godwin for setting up and maintaining the Academy's webpage.

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,
Mark Draganjac, Chair
Resolutions Committee

APPENDIX C

STUDENT AWARDS

Undergraduate, Environmental Science:

First: Elisa Horsch, "Trophic cascade initiated by cursorial spiders, in an early successional field", Hendrix College.

Second: Eric Anderson, "Effects of ANO effluent on Lake Dardanelle microflora", Arkansas Tech University. (no third place)

Undergraduate, Life Science:

First (tie): Jonathan Whitlock, "Regulation of neural determination and differentiation genes of the bHLH

family", UT Southwestern Medical Center

First (tie): Shonda Harris, "Life history and population characteristics of the Carolina mantid, *Stagmomantis carolina*, Saussure (Mantodea: Mantidae)", Hendrix College

Third: Josie Dickens, "Survey of medium and large mammals in an urban park (Murray Park, Little Rock, AR)", University of Arkansas at Little Rock.

Undergraduate, Physical Science:

First: C. Edrington, "Improvements in photoconductance of evaporated indium (III) sulfide films by annealing" Arkansas State University.

Second: R. Tut Campbell, "A supernova patrol program", Arkansas Tech University.

Third: Lex Mitchell, "Interpreting the raman spectra of iron oxide corrosion products", Arkansas Tech University.

Graduate, Life/Environmental Science:

First: C.V. Ashburn, "Identification of the SVV glycoprotein L(gL)", University of Arkansas for Medical Science.

Second (tie): Camille Flinders, "Habitat partitioning in a lotic crayfish community in the Ozark plateaus: the role of environmental variables", University of Central Arkansas.

Second (tie): Jeff Briggler, "Demographics of a ringed salamander (*Ambystoma annulatum*) breeding population during migration", University of Arkansas at Fayetteville.

Graduate, Physical Science:

First: Steve Farmer, "Implementing the hart communications protocol in control valve applications", University of Arkansas at Little Rock.

(no other awards)

CONSTITUTION

ARKANSAS ACADEMY OF SCIENCE

(Revised at the April 1999 Annual Meeting)

ARTICLE I. NAME

The name of this organization shall be "The Arkansas Academy of Science."

ARTICLE II. OBJECTIVES

The objectives of this organization shall be the promotion and diffusion of knowledge of the fields of Science and unification of these interests in the State.

ARTICLE III. MEMBERSHIP

Section 1. Persons and organizations interested in the objectives of this Academy may join by the payment of dues.

Section 2. There shall be two general classes of membership in the Academy: Members (consisting of Regular, Sustaining, Sponsoring, Life, and Undergraduate Student) and Institutional Members.

ARTICLE IV. OFFICERS

The officers of the Academy shall be a President, a President-elect, a Vice President, a Secretary, a Treasurer, a Historian, a *Journal* Editor-in-Chief, a *Journal* Managing Editor, and a *Newsletter* Editor who shall perform the duties usually pertaining to their respective offices. All officers of the Academy except the President, President-elect and Managing Editor of the *Journal* shall be chosen by ballot by the membership-at-large in the annual meeting. The President, President-elect and Vice President shall hold office for one year. The Secretary, Treasurer, Historian, *Journal* Editor-in-Chief, *Journal* Managing Editor, and *Newsletter* Editor shall hold office for five years. The office of President shall be filled by the preceding year's President-elect. The office of President-elect shall be filled by the preceding year's Vice President. The Managing Editor shall be appointed by the Executive Committee. These officers and the immediate past President shall constitute the Executive Committee of the organization.

ARTICLE V. MEETINGS

The annual meeting of the Academy shall be held at such times and places as will be designated by the Executive Committee.

ARTICLE VI. PUBLICATIONS

The publications of the Academy shall include the *Journal* of the Academy and such papers as are deemed suitable by the Executive Committee.

ARTICLE VII. AMENDMENTS

This constitution may be altered or amended at any annual meeting by a three-fourths majority of the attending members of at least one year's standing. Final action on any alteration or amendment shall be taken at a session subsequent to the one at which it is presented.

BY-LAWS

(Revised at the April 1999 Annual Meeting)

1. These by-laws may be altered or amended in the same manner as the constitution.
2. The following standing committees shall be established: Auditing, Awards, Biota, Constitution, Development, Local Arrangements, Nominations, Publications, Publicity, Resolutions, and Science Education. *Ad hoc* committees may be appointed by the President. The make-up, duties and duration of service for members of each standing committee shall be determined by the Executive Committee with members for vacancies to be appointed by the President.
3. Whenever the number of papers to be presented in any field becomes sufficiently large, an additional section may be created at the discretion of the Local Arrangements Committee.
4. Persons presenting papers with the intent of having them published in the *Journal* shall present an original and two copies of the paper to the Chairman of the appropriate section or either of the *Journal* Editors at the annual meeting. The Editors shall be under no obligation to consider papers submitted after this date.
5. Members who shall allow their dues to remain unpaid for two years, having been annually notified of their arrearage by the Secretary, shall lose their status of membership.
6. Expenditures in excess of \$200 which have not been specifically authorized by the Academy at a prior annual business meeting require written approval by the President before payment can be made.
7. The fiscal year and the membership year shall begin January 1 and end December 31. A person joining the Academy during the year is entitled to membership privileges for the remainder of that fiscal year.
8. All officers elected at the annual meeting assume their duties at the end of the last business session of that meeting.
9. In the event an officer, except President, Past President, President-elect, and Vice President, is unable to complete a term, the Executive Committee shall appoint a successor to complete that term, or open a new five-year term with an election at the next general meeting.
10. Dues for all categories of members shall be set by the Executive Committee of the Academy and submitted to the membership for approval. Approval by the membership shall be by majority vote of those present. Any change of dues approved by the membership shall be effective January 1 of the year following that in which the change was approved.
11. The price of the *Journal* in sales to non-members of the Academy shall be determined by the Executive Committee.
12. The Academy shall sponsor such activities as it deems necessary to further its objectives. All activities sponsored by the Academy shall be reviewed annually by the Executive Committee.
13. The Academy shall set aside \$1,000 or more as a reserve fund which may be withdrawn and used upon expressed consent of the Executive Committee.
14. Notwithstanding any provision of the Constitution or By-laws which might be susceptible to a contrary construction,
 - (a) the Academy shall be organized and operated exclusively for scientific and educational purposes;
 - (b) with the exception of established awards, no part of the net earnings of the Academy shall or may under any circumstances inure to the benefit of any private individual;
 - (c) no substantial part of the activities of the Academy shall consist of carrying on propaganda, or otherwise attempting to influence legislation;
 - (d) the Academy shall not participate in, or intervene in (including the publishing or distributing of statements) any political campaign on behalf of any candidate for public office;
 - (e) the Academy shall not be organized or operated for profit;
 - (f) the Academy shall not:
 - (1) lend any part of its income or corpus, without the receipt of adequate security and a reasonable rate of interest, to;
 - (2) pay any compensation in excess of a reasonable allowance for salaries or other compensation for personal services actually rendered to;
 - (3) make any part of its services available on a preferential basis to;
 - (4) make any purchase of securities or any other property for more than adequate consideration in money or money's worth from;
 - (5) sell any securities or other property for less than adequate consideration in money's worth to;
 - (6) engage in any other transactions which result in substantial diversion of its income or corpus to any officer of the Executive Committee or substantial contributor to the Academy

The prohibitions contained in this subsection (f) do not mean to imply that the Academy may make such loans, payments, sales or purchases to anyone else, unless such authority be given or implied by other provisions of the Constitution or By-laws.

Upon dissolution of the Academy, the Executive Committee shall distribute the assets and accrued income to one or more organizations as determined by the Executive Committee, but which organizations shall meet the limitations prescribed in subsections (a) through (f), inclusive, immediately preceding.

14. The Arkansas Academy of Science is the parent organization of the Arkansas Junior Academy of Science. The appointment of the Director of the Arkansas Junior Academy of Science is made by the President of the Arkansas Academy of Science for a period of three years. The Director will operate with the advice of a Board of Regional Directors appointed by the President of the Arkansas Academy of Science. The Regional Directors will serve at the pleasure of the President.

APPENDIX A

AAS CONSTITUTIONAL COMMITTEES

EXECUTIVE COMMITTEE: The Executive Committee shall consist of the President, Past President, President-elect, Vice President, Secretary, Treasurer, Historian, *Journal* Editor-in-Chief, *Journal* Managing Editor, and Newsletter Editor. The Executive Committee shall make recommendations concerning the policies and activities of the Academy in accordance with the Constitution and By-laws of the Academy. The Committee shall meet prior to the first annual business meeting to discuss any motions to be presented at the annual business meeting or any other matters that pertain to the Academy. Other Executive Committee meetings may be held, with the general consensus of its members, depending on the need to discuss Academy issues and interests.

AAS STANDING COMMITTEES ESTABLISHED BY THE BY-LAWS

1. **AUDITING COMMITTEE:** The Auditing Committee shall consist of a Chair and three additional members. The President shall appoint the Committee prior to or at the first annual business meeting, and it shall function only for that annual meeting. The Committee shall examine the financial records of the Academy, provided by the Treasurer, and report its findings to the Academy at the second business meeting.
2. **AWARDS COMMITTEE:** The Awards Committee shall be named by the Local Arrangements Committee for the upcoming annual meeting. The Committee shall consist of a Chair and as many additional members as

the Chair and/or Local Arrangements Committee deem necessary. The Awards Committee shall evaluate undergraduate and graduate paper presentations during the annual meeting and make recommendations for the various awards established by the Executive Committee.

3. **BIOTA COMMITTEE:** The Biota Committee shall consist of a Chair and five additional members, and shall be appointed by the President for undefined terms of service. A term of service may be terminated by the President, the committee Chair, or the member. The Biota Committee shall collect, organize, and disseminate taxonomic information on the flora and fauna of Arkansas. Reports shall be made available to the members of the Academy and any other interested party when sufficient information exists.
4. **CONSTITUTION COMMITTEE:** The Constitution Committee shall be appointed by the President whenever a need for constitutional examination exists and consist of the President-elect, Vice President, and one other member. The President-elect shall serve as the Chair. The Committee shall make recommendations on changes in the Constitution and By-laws whenever such changes are deemed necessary.
5. **DEVELOPMENT COMMITTEE:** The Development Committee shall consist of a Chair and two additional members and be appointed by the President to undefined terms. The President, the committee Chair, or the member may terminate the appointment. The Development Committee shall promote the growth and development of the Academy by contacting private industries to secure endowment funding to support activities of the Academy.
6. **LOCAL ARRANGEMENTS COMMITTEE:** The Local Arrangements Committee shall consist of a Chair, appointed by the President, and a minimum of two additional members, selected by the Chair. The Local Arrangements Committee shall make the arrangements necessary to host the annual meeting in accordance with the established guidelines for hosting a meeting adopted by the Executive Committee.
7. **NOMINATIONS COMMITTEE:** The Nominations Committee shall consist of a Chair and two additional members. Each member shall serve a three-year term with staggered expiration dates. The member serving his/her third year shall be the Chair, and the President shall appoint one new member each year prior to the annual meeting. The Nominations Committee shall recommend candidates to the members of the Academy for election. A minimum of two candidates shall be proposed for Vice President, and a minimum of one candidate shall be proposed for each of the other offices (Secretary, Treasurer, Historian, and Editors) as their

terms expire.

8. **PUBLICATIONS COMMITTEE:** The Publications Committee shall consist of the Editor-in-Chief and Managing Editor of the *Journal* and two additional members. The Editor-in-Chief shall be elected by the membership of the Academy to a five-year term and serve as the Chair. The Managing Editor shall be appointed by the Executive Committee and serve a five-year term. The two additional members shall be appointed by the President for undefined terms. The Committee Chair, President, or the member may terminate a member's appointment. The Chair may select as many Associate Editors as deemed necessary to accomplish the task of manuscript review. The Editor-in-Chief, Managing Editor and Associate Editors shall review manuscripts submitted for publication in the *Journal* and any other publications deemed desirable by the Executive Committee. Manuscripts may also be submitted to selected specialists for review. The Editors, jointly or singly, shall have the primary jurisdiction, but the Committee may be consulted, for decisions regarding acceptance, rejection or revision of all manuscripts.
9. **PUBLICITY COMMITTEE:** The Publicity Committee shall consist of a Chair and two additional members. The Committee shall be appointed by the President for undefined terms, and the President, committee Chair or the member may terminate the member's appointment. The Publicity Committee shall promote the public image of the Academy with news releases on activities and accomplishments of the Academy. All news releases shall be reviewed and approved by the Executive Committee prior to release to the news media.
10. **RESOLUTIONS COMMITTEE:** The Resolutions Committee shall consist of a Chair and two additional members. The Committee shall be appointed by the President prior to or at the first annual business meeting and serve only for that annual meeting. The Resolutions Committee shall present appropriate resolutions expressing the appreciation of the Academy to all individuals and organizations involved in activities sponsored by the Academy during the year.
11. **SCIENCE EDUCATION COMMITTEE:** The Science Education Committee shall consist of a Chair and additional members as deemed necessary by the Chair of the committee. The President shall appoint the Chair and, in consultation with the Chair, additional members for undefined terms. The President, the committee Chair or the member may terminate the member's appointment. The Science Education Committee shall provide information to the Academy on current programs and activities in science education in the state, promote programs, including the Junior Academy,

Science/Engineering Fairs, and Science Talent Search(es) and cooperate with state agencies and other educational organizations in the study and development of innovative ideas or activities to improve science education at all levels in the state.

APPENDIX B

DUTIES OF ELECTED OFFICERS

- A. President -
 1. Calls to order and presides over all Executive and General Business meetings
 2. Handles official Academy correspondence as pertains to the office of President, and/or delegates correspondence pertaining to other offices to those officers as appropriate
 3. Asks any other officers and directors of subunits, as appropriate, for advice and assistance
- B. President-elect -
 1. Serves in the capacity of President should the President be unable to perform his/her duties
 2. Assists and advises the President when called on to do so
- C. Vice President -

Assists and advises the President and/or President-elect when called on to do so
- D. Past President -

By virtue of his/her service and experience, the Past President assists and advises the President when called on to do so
- E. Treasurer -
 1. Keeps all financial records of the Academy
 2. Receives payments of dues, *Journal* subscriptions, and all other sources of income
 3. Manages investments of the Academy with the approval of the Executive Committee
 4. Disburses funds for payment of Academy operating expenses and gifts awarded
- F. Secretary -
 1. Keeps all clerical records of the Academy: memberships by approved categories, *Journal* subscriptions, exchange and abstracting service lists, and other records as deemed necessary and appropriate by the Executive Committee
 2. Sends out copies of the *Journal* to members (as needed) and as requested by subscription, exchange, and abstracting service lists
 3. Corresponds with members and libraries as appropriate regarding payment of dues and payment

of invoices for the *Journal*

4. Furnishes mailing labels to other Executive Committee members and Local Arrangements Committee Chair as appropriate
5. Furnishes membership information, as appropriate, to anyone requesting
6. Corresponds with AAAS (American Association for the Advancement of Science) to receive or provide information as needed and appropriate

G. *Journal* Editors -

1. Receive manuscripts submitted for publication and cooperate with Associate Editors in the review, revision and acceptance process
2. The Managing Editor coordinates the manuscript review process with the Associate Editors and selected reviewers
3. Both Editors prepare the next issue of the *Journal* by assembling the final copies of manuscripts accepted for publication
4. The Editor-in-Chief primarily works with the printer in the technical preparation of the *Journal*
5. Arrange for the distribution of copies of the *Journal* at the next annual meeting

H. *Newsletter* Editor -

1. Receives and compiles news items regarding Academy operations, Executive Committee decisions, and general Academy activities and involvements
2. Prepares two (or as many or few as the Executive Committee deems appropriate) issues of the *Newsletter* per year, the contents of which are subject to approval and revision by the Executive Committee -
 - a. the "Fall" issue shall contain general news about the Academy activities and general information about the next annual meeting
 - b. The "Spring" issue shall contain more specific information about the next annual meeting, an abstract form, meeting reservation/registration form(s), and specific news about achievements of Academy members
3. Distributes copies to all Academy members and prospective members, as directed by the Executive Committee

I. Historian -

1. Keeps historical records of Academy meetings and other activities
2. Reports on past activities at the annual meeting, as the presiding officer directs, and as the Executive Committee requests

MEMBERS 1999

FIRST MI	LAST NAME	INSTITUTION
Al	Adams	University of Arkansas at Little Rock
Max L.	Baker	University of Arkansas for Medical Sciences
Gene Lee	Bangs	University of Arkansas at Little Rock
Gwen	Barber	Arkansas Tech University
Victor	Blunt	University of Arkansas at Pine Bluff
Frank	Bowers	University of Wisconsin-Stevens Point
Jimmy D.	Bragg	Henderson State University
Edwin S.	Braithwaite	Cedarville College
William D.	Brown	University of Arkansas at Fayetteville
Thomas	Buchanan	Westark Community College
John	Bush	University of Arkansas at Little Rock
Michael E.	Cartwright	Arkansas Game & Fish Commission
Stanley L.	Chapman	University of Arkansas at Fayetteville
Vincent A.	Cobb	Ouachita Baptist University
Lynita	Cooksey	Arkansas State University
Marc	Corrigan	University of Arkansas at Monticello
Betty	Crump	U.S.D.A., Forest Service
Donald	Culwell	University of Central Arkansas
James T.	Daniels	Southern Arkansas University
Perry A.	Daniels	Arkansas State University
Jerry A.	Darsey	University of Arkansas at Little Rock
Chris	Davidson	
Patrick	Desrochers	University of Central Arkansas
Peggy Rae	Dorris	Henderson State University
Rudolph J.	Eichenberger	Southern Arkansas University
David	Eller	University of Arkansas for Medical Sciences
Robert	Engelken	Arkansas State University
Don	England	Harding University
James	Engman	Henderson State University
E. P. (Perk)	Floyd	U.S. Public Health Service
Thomas L.	Foti	Natural Heritage Commission
Charlie	Gagen	Arkansas Tech University
Wayne	Gildseth	Southern Arkansas University
Crissy Patterson	Goss	Hampton High School
John P.	Graham	Arkansas Tech University
Wayne L.	Gray	University of Arkansas for Medical Sciences
Reid	Green	U.S. Geological Survey
Brian	Greuel	John Brown University
Richard S.	Grippio	Arkansas State University
Anne A.	Grippio	Arkansas State University
Paul V.	Hamilton	University of Central Arkansas
Earl L.	Hanebrink	Arkansas State University-retired
Franklin D.	Hardcastle	Arkansas Tech University
John L.	Harris	Arkansas Highway & Transportation Dept.
Michael J.	Harvey	Tennessee Tech University
Roger M.	Hawk	University of Arkansas at Little Rock
Marsha	Hendricks	Harding University
Kristine	Herbert	Westpark Community College
Larry R.	Hilburn	Black River Technical College
Jim	Huey	University of Arkansas at Monticello
Philip E.	Hyatt	USDA, Forest Service
M. D.	Jalaluddin	University of Arkansas at Pine Bluff
David	Jamieson	Arkansas State University-Beebe/Newport
James E.	Johnson	University of Arkansas at Fayetteville
Michael I.	Johnson	Nettleton High School
Hugh	Johnson	Southern Arkansas University
Thurman O.	Jordan	Arkansas Audubon Society
Jay	Justice	Arkansas Dept. Pollution Control & Ecology
Mark	Karnes	The Ross Foundation
Philip L.	Kehler	University of Arkansas at Little Rock
Scott W.	Kirkconnell	Arkansas Tech University
Maurice G.	Kleve	University of Arkansas at Little Rock
Richard	Kluender	University of Arkansas at Monticello
Roger E., II	Koeppel	University of Arkansas at Fayetteville
Randall A.	Kopper	Hendrix College
Timothy	Kral	University of Arkansas at Fayetteville
Norman	Lavers	Arkansas State University
Stephen A.	Leslie	University of Arkansas at Little Rock
Hal O.	Liechty	University of Arkansas at Monticello
Brian	Lockhart	University of Arkansas at Monticello
Dan	Magoulick	University of Central Arkansas
Daniel L.	Marsh	Henderson State University
John E.	Marshall	Biotechnical Services Inc.
Robert	Maruca	Arkansas Tech University
H. Michael	Mathews	Henderson State University

FIRST MI	LAST NAME	INSTITUTION
Russell B.	McAllister	Arkansas Dept. Pollution Control & Ecology
V. Rick	McDaniel	Arkansas State University
Richard	Meyer	University of Arkansas at Fayetteville
Muhammad A.	Miah	University of Arkansas at Pine Bluff
Cristin	Milam	Arkansas State University
Lawrence A.	Mink	Arkansas State University
Paul	Mixon	Arkansas State University
Warren	Montague	U.S. Forest Service
Cindy	Moore	Westark Community College
Matthew	Moran	Hendrix College
Leland F.	Morgans	University of Arkansas at Little Rock
Tom	Nelson	Eastern Illinois University
Ronald E.	Nelson	Arkansas Tech University
Russell	Nordeen	University of Arkansas at Monticello
Thomas	Nupp	Arkansas Tech University
Joseph O.	Owasoyo	University of Arkansas at Pine Bluff
Don R.	Owens	University of Arkansas at Little Rock
Michael J.	Panigot	Arkansas State University
Mark A.	Paulissen	McNeese State University
Michael V.	Plummer	Harding University
William R., II	Posey	Department Pollution Control & Ecology
Donna G.	Quimby	University of Arkansas at Little Rock
James A.	Rasmussen	Southern Arkansas University
Darryl K.	Reach	University of Arkansas at Little Rock
Scott W.	Reeve	Arkansas State University
Dennis J.	Richardson	Quinnipiac College
Jeff W.	Robertson	Arkansas Tech University
Joe	Rosen	University of Central Arkansas
Karen	Rowe	Arkansas Game & Fish Commission
Steven W.	Runge	University of Central Arkansas
Charles J.	Scifres	University of Arkansas at Fayetteville
Frank L.	Setliff	University of Arkansas at Little Rock
Larry	Seward	John Brown University
Elwood B.	Shade	University of Arkansas at Monticello
Ali U.	Shaikh	University of Arkansas at Little Rock
William M.	Shepherd	Arkansas Natural Heritage Commission
Robert A.	Sims	University of Arkansas at Little Rock
Robert	Skinner	University of Arkansas for Medical Sciences
Kimberly G.	Smith	University of Arkansas at Fayetteville
Richard D.	Smith	Pulaski Tech College
Roy J.	Smith, Jr.	U.S.D.A./University of Arkansas
Thomas	Soerens	University of Arkansas at Fayetteville
Frederick W.	Speigel	University of Arkansas at Fayetteville
Richard W.	Standage	U.S. Forest Service
Joseph N.	Stoekel	Arkansas Tech University
Eric	Sundell	University of Arkansas at Monticello
Phil	Tappe	University of Arkansas at Monticello
William R.	Teague	University of Arkansas at Fayetteville
Wayne E.	Throgmartin	Southern Illinois University
D. S.	Tomer	University of Central Arkansas
Starla	Vanderpool	Arkansas State University
Brian	Wagner	Arkansas Game & Fish Commission
Richard B.	Walker	University of Arkansas at Pine Bluff
Stephen A.	Walker	
Gerald	Walsh	
Robert L.	Watson	University of Arkansas at Little Rock
James O.	Wear	V.A. Medical Center
Jerry	Webb	University of Arkansas at Monticello
Rayona	Webster	Cossatot Technical College
Robert	Weih	University of Arkansas at Monticello
Delores	Wennerstrom	Pulaski Academy
David	Wennerstrom	University of Arkansas for Medical Sciences
Todd	Wiebers	Henderson State University
J. D.	Wilhide	Arkansas State University
Edmond W.	Wilson, Jr.	Harding University
Donald C.	Wold	University of Arkansas at Little Rock
Heather L.	Woolverton	University of Central Arkansas
Andrew	Wright	University of Arkansas at Little Rock
Tsunemi	Yamashita	Arkansas Tech University
J. Lyndal	York	University of Arkansas for Medical Sciences

SUSTAINING MEMBERS

Malcolm K.	Cleaveland	University of Arkansas at Fayetteville
Edward E.	Dale, Jr.	University of Arkansas at Fayetteville
David L.	Davies	University of Arkansas for Medical Sciences
Edmond E.	Griffin	University of Central Arkansas
Paul M.	Nave	Arkansas State University
Alex R.	Nisbet	Ouachita Baptist University

FIRST MI	LAST NAME	INSTITUTION
Clifton	Orr	University of Arkansas/Pine Bluff
Joseph R.	Penor	University of Arkansas at Little Rock
Paul C.	Sharrah	University of Arkansas at Fayetteville
Samuel	Siegel	University of Arkansas at Fayetteville
Felix K.	Tendeku	University of Arkansas at Pine Bluff
Rudy	Timmerman	Rich Mountain Community College
William M.	Willingham	University of Arkansas at Pine Bluff
Steve	Zimmer	Arkansas Tech University

SPONSORING MEMBERS

Thomas J.	Lynch	University of Arkansas at Little Rock
Rose	McConnell	University of Arkansas at Monticello
Marsha	Rowe	Stamps High School
Michael E.	Soulsby	University of Arkansas for Medical Sciences

LIFE MEMBERS

Robbin C.	Anderson	University of Arkansas at Fayetteville
Edmond J.	Bacon	University of Arkansas at Monticello
Vernon	Bates	Ouachita Mtns. Biological Station
Wilfred J.	Braithwaite	University of Arkansas at Little Rock
David	Chittenden	Arkansas State University
Calvin	Cotton	Geographics Silk Screening Co.
Fred	Dalske	University of Central Arkansas
James J.	Daly	University of Arkansas for Medical Sciences
Leo Carson	Davis	Southern Arkansas University
Robert H.	Dilday	University of Arkansas at Fayetteville
Mark	Draganjac	Arkansas State University
Jim	Edson	University of Arkansas at Monticello
Daniel R.	England	Southern Arkansas University
William L.	Evans	University of Arkansas at Fayetteville
Kim	Fifer	University of Arkansas for Medical Sciences
James H.	Fribourgh	University of Arkansas at Little Rock
Arthur	Fry	University of Arkansas at Fayetteville
Collis R.	Geren	University of Arkansas at Fayetteville
John	Giese	Ark. Dept. of Pollution Control & Ecol.
Walter E.	Godwin	University of Arkansas at Monticello
Joe M.	Guenter	University of Arkansas at Monticello
Joyce M.	Hardin	Hendrix College
George L.	Harp	Arkansas State University
Phoebe A.	Harp	Arkansas State University
Gary A.	Heidt	University of Arkansas at Little Rock
Ronnie	Helms	University of Arkansas at Fayetteville
Mostafra	Hemmati	Arkansas Tech University
Carol A.	Jacobs	
Douglas	James	University of Arkansas at Fayetteville
Arthur A.	Johnson	Hendrix College
Cindy	Kane	University of Arkansas for Medical Sciences
Donald R.	Mattison	University of Pittsburgh
Roland E.	McDaniel	FTN Associates, Ltd.
Herbert	Monoson	Ark. Science & Technology Authority
Clementine	Moore	
Gaylord M.	Northrop	University of Arkansas at Little Rock
Tom	Palko	Arkansas Tech University
James H.	Peck	University of Arkansas at Little Rock
Michael W.	Rapp	University of Central Arkansas
John D.	Rickett	University of Arkansas at Little Rock
Henry W.	Robison	Southern Arkansas University
David A.	Saugy	U.S. Forest Service
Betty M.	Spears	Ouachita Mtns. Biological Station
Richard K.	Spears	Ouachita Mtns. Biological Station
George E.	Templeton	University of Arkansas at Fayetteville
Stanley E.	Trauth	Arkansas State University
Gary	Tucker	FTN Associates
Renn	Tumlison	Henderson State University
James L.	Wickliff	University of Arkansas at Fayetteville
Robert W.	Wiley	University of Arkansas at Monticello

STUDENT MEMBERS

Jennifer	Abbott	Henderson State University
James R.	Anderson	Henderson State University
Brady	Baker	Arkansas State University
Jeremy W.	Bowers	Arkansas State University
Mohanjeet Singh	Brar	University of Arkansas at Fayetteville
Jeff	Briggler	University of Arkansas at Fayetteville
Daniel	Bullock	Arkansas Tech University
Melissa	Camp	Henderson State University

FIRST MI	LAST NAME	INSTITUTION
Shawn	Cochran	Arkansas State University
Mathues S.	Doss	Arkansas Tech University
Andrew	Edwards	University of Arkansas at Little Rock
Steve P.	Fillip	Henderson State University
Eric L.	George	Arkansas Tech University
Timothy A.	Golden	Henderson State University
Cynthia	Goshen	Henderson State University
Chad	Hargrave	University of Arkansas
David C.	Hearn	University of Arkansas at Fayetteville
Richard B.	Homard	University of Arkansas at Little Rock
Laura	Hudson	Westark Community College
Kristy	Jones	John Brown University
Sailesh	Kumar	University of Arkansas at Little Rock
Jared	Kyzer	Henderson State University
Mary Lynn	Lambert	Eastern Illinois University
Diana	Lindquist	University of Arkansas at Little Rock
Lisa	Maddox	University of Arkansas for Medical Sciences
David L.	McDaniel	Henderson State University
Donna	Moore	University of Arkansas at Fayetteville
Dan C.	Phan	University of Arkansas for Medical Sciences
Christine	Pope	Henderson State University
Robin	Roggio	University of Arkansas at Fayetteville
Lori	Sale	Arkansas Tech University
Demetra	Salisbury	University of Arkansas at Fayetteville
Garrett	Sanford	University of Arkansas at Fayetteville
Stephen R.	Skinner	University of Arkansas at Fayetteville
Frances	Terry	Arkansas Tech University
Charles	Verghese	Arkansas Tech University
Jeremy	Warford	Hendrix College
Hilary	Warley	Arkansas State University
Theo	Witsell	University of Arkansas at Little Rock
Timothy W.	Wofford	University of Arkansas at Little Rock
Hilary J.	Worley	Arkansas State University
Jedediah J.	Young	University of Arkansas at Fayetteville