

2005

89th Annual Meeting, 2005. Secretary's Report and Financial Statement

Academy Editors

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JOURNAL ARKANSAS ACADEMY OF SCIENCE

ANNUAL MEETING 8-9 APRIL 2005
HENDRIX COLLEGE

Betty Crump
President

Stanley E. Trauth
President-Elect

Jeff Robertson
Secretary

Joyce Hardin
Treasurer

Mostafa Hemmati
NAAS Delegate

Henry Robison
Historian

Secretary's Report

MINUTES OF THE 89TH MEETING

ARKANSAS ACADEMY OF SCIENCE SUMMARY OF 1st and 2nd BUSINESS MEETINGS HENDRIX COLLEGE APRIL 8-9, 2005

1. Call to Order: Betty Crump, President of the AAS, called the meetings to order. Betty wanted to call attention to two Academy officers who had been recognized this year. Joyce Hardin was named as an outstanding alumnus by the University of Arkansas in their alumni publication. David Saugey was named as the Educator of the Year by the U.S. Forest Service.
2. Local Arrangements Committee: Local Arrangements Chair and Arkansas Academy of Science Treasurer Joyce Hardin expressed her thanks to the many people who have helped to host the meeting who will also be recognized in the resolutions. There were 203 attendees that registered for the meeting. There were 92 oral presentations, 23 poster presentations as well as 35 students entered in the competitions. She then announced the various scholarly awards presented to students for their research presented at the meeting symposia. (They are listed elsewhere in this volume.)
3. Treasurer/Auditor: The financial report was presented by Joyce Hardin. Details on the income and expenses for the year highlighted in addition to journal cost issues. The expense of the journal was reduced last year and helped the Academy post a substantial gain compared to last year. The cost of the journal for this year was dramatically reduced due in part to new technologies at the printer and should help our finances even more. Stan Trauth and Malcolm McCallum were acting auditors and reviewed the financial statements. Everything was deemed "OK." (OK translating into the excellent integrity and good financial records kept by the Academy showing no inconsistencies or irregularities.)
4. Secretary: The minutes from 2004 Executive Committee business meeting in November 2004 were distributed and approved. Prior to this meeting, the current membership list included approximately 132 members (56 which are life members) of the Academy. A request for \$200 was made to offset mailing charges incurred for the AAS mailings, the Newsletter, and Journals that are not picked up at the annual meeting was approved.
5. Historian: Henry Robison reported that this is the 89th annual meeting of the Arkansas Academy of Science. This is the 4th time the annual meeting was held at the Hendrix College Campus, the other meetings being in the years 1939, 1963, 1979.
6. *Journal* Editor-in-Chief: Stan Trauth reported that Vol. 58 of the journal is 144 pages. A request for the Academy to continue to support the *Journal* Editor-in-Chief with an allotment of \$200 and \$600 for assistant editor duties to cover incurred costs was accepted.
7. *Journal* Managing Editor: Chris McAllister sounded his appreciation for authors in following the formatting and submission instructions. He felt the quality of paper submissions has continued a steady rise. A request for \$500 to cover incurred costs associated with managing editor duties was approved.
8. Arkansas Science Fair Association: A request and approval was obtained for \$400 dollars to support the Arkansas Science Fair Association from Michael Rapp. The state science fair is in its 51st year and the annual winners go to an international fair that has 1000 students from 40 countries competing. Arkansas has had 4 top two finishers at that event.

**ARKANSAS ACADEMY OF SCIENCE
 2004 FINANCIAL STATEMENT**

\$ 13,940.00

BALANCE – December 31, 2004	\$ 28,831.56
BALANCE – January 1, 2004	\$ 26,164.94
NET GAIN	\$ 2,666.62

DISTRIBUTION OF FUNDS

Checking Account Bank of Ozarks, Conway, AR	\$ 2,236.42
Certificates of Deposit Life Membership Endowment Bank of Ozarks, Conway, AR	\$ 14,269.90
Dwight Moore Endowment Bank of Ozarks, Conway, AR	\$ 5,153.40
Phoebe and George Harp Endowment Bank of Ozarks, Conway AR	\$ 5,671.84
Unrestricted Bank of Ozarks, Conway, AR	\$ 1,500.00

**TOTAL
 \$ 28,831.56**

INCOME:

1. ANNUAL MEETING	\$ 500.00
2. ENDOWMENT DONATIONS	
a. AAS Unrestricted	\$ 25.00
b. Moore	25.00
	50.00
	\$ 50.00
3. INTEREST	
a. Endowment	\$ 397.19
b. Checking	7.18
	404.37
	\$ 404.37
4. JOURNAL	
a. Miscellaneous Sales	\$ 2,550.00
b. Page Charges	10,640.00
c. Subscriptions	750.00
	\$ 13,940.00

5. MEMBERSHIP

a. Associate/Student	\$ 495.00
b. Regular	2,220.00
c. Sustaining	105.00
d. Life	700.00
e. Institutional	1,400.00
	4,920.00
	\$ 4,920.00

6. MISCELLANEOUS

Reimbursed bank service charges (12/03 and 1/04)	\$ 16.00
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TOTAL INCOME \$ 19,830.37

EXPENSES:

1. ANNUAL MEETING

Betty Crump (1026)	\$ 43.20
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2. AWARDS

a. Arkansas Science Fair(1028)	\$ 400.00
b. Arkansas Junior Academy(1029)	250.00
c. Conway Trophy (1032)	97.43
d. Student Awards (1033-1040)	650.00
	\$ 1,397.43
	\$ 1,397.43

3. MISCELLANEOUS

Checking account service charge (1/04)	\$ 8.00
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4. NEWSLETTER

\$ 0.00

5. OFFICE EXPENSES

\$ 0.00

6. JOURNAL

a. Stan Trauth – Editorial Consultation and Travel Volume 57 (1024)	\$ 200.00
b. Pinpoint Color Volume 57 (1031)	14,415.12
c. Joy Trauth – Editorial Consultant Volume 58 (1042)	600.00
d. Chris McAlister Volume 58 (1027)	500.00
	\$ 15,715.12
	\$ 15,715.12

TOTAL EXPENSES \$ 17,163.75

**ARKANSAS ACADEMY OF SCIENCE
COST OF JOURNAL**

VOLUME	COPIES	PAGES	PRINTER CHARGE	TOT. VOL. COST	COST/COPY	COST/PAGE
35 (1981)	450	96	\$ 3,694.68	\$ 4,620.99	\$ 10.27	\$ 48.14
36 (1982)	450	110	\$ 5,233.28	\$ 5,291.69	\$ 11.76	\$ 48.11
37 (1983)	450	103	\$ 5,326.91	\$ 5,944.44	\$ 13.21	\$ 57.71
38 (1984)	450	97	\$ 5,562.97	\$ 6,167.72	\$ 13.71	\$ 63.58
39 (1985)	450	150	\$ 7,856.20	\$ 8,463.51	\$ 18.81	\$ 56.42
40 (1986)	450	98	\$ 6,175.20	\$ 6,675.20	\$ 14.23	\$ 68.11
41 (1987)	450	116	\$ 7,122.79	\$ 7,811.25	\$ 17.36	\$ 67.34
42 (1988)	450*	116	\$ 7,210.79	\$ 7,710.15	\$ 17.13	\$ 66.47
43 (1989)	450*	119	\$ 8,057.24	\$ 8,557.24	\$ 19.02	\$ 71.91
44 (1990)	450*	136	\$ 9,298.64	\$ 9,798.64	\$ 21.77	\$ 72.05
45 (1991)	450*	136	\$ 9,397.07	\$ 9,929.32	\$ 22.06	\$ 73.01
46 (1992)	450*	116	\$ 9,478.56	\$ 10,000.56	\$ 22.22	\$ 86.21
47 (1993)	400	160	\$ 12,161.26	\$ 12,861.26	\$ 32.15	\$ 80.38
48 (1994)	450	270	\$ 17,562.46	\$ 18,262.46	\$ 40.58	\$ 67.63
49 (1995)	390	199	\$ 14,725.40	\$ 15,425.40	\$ 39.55	\$ 77.51
50 (1996)	345	158	\$ 11,950.00	\$ 12,640.75	\$ 36.64	\$ 80.00
51 (1997)	350	214	\$ 14,308.01	\$ 15,008.01	\$ 42.88	\$ 70.13
52 (1998)	350	144	\$ 12,490.59	\$ 13,190.59	\$ 37.69	\$ 91.60
53 (1999)	350	160	\$ 13,686.39	\$ 14,386.39	\$ 41.10	\$ 89.91
54 (2000)	350	160	\$ 14,149.07	\$ 14,849.07	\$ 42.43	\$ 92.81
55 (2001)	360	195	\$ 16,677.22	\$ 17,498.22	\$ 48.61	\$ 89.73
56 (2002)	350	257	\$ 18,201.93	\$ 19,001.93	\$ 54.29	\$ 73.94
57 (2003)	230	229	\$ 14,415.12	\$ 15,715.12	\$ 68.33	\$ 68.62

The Total Volume Cost equals the printer's charge plus the editor, editorial assistant, and other miscellaneous charges.

- On Volume 42 the Academy received 560 copies, but the printer did not charge us for the extra 110 copies. For comparison purposes the calculated cost/copy is based on 450 copies.
- On Volume 43 the Academy received 523 copies, but the printer did not charge us for the extra 73 copies. For comparison purposes the calculated cost/copy is based on 450 copies.
- On Volume 44 the Academy received 535 copies, but the printer did not charge us for the extra 85 copies. For comparison purposes the calculated cost/copy is based on 450 copies.
- On Volume 45 the Academy received 594 copies, but the printer did not charge us for the extra 144 copies. For comparison purposes the calculated cost/copy is based on 450 copies.
- On Volume 46 the cost was greater than usual due to the high cost of a second reprinting of 54 copies by a different printer.

9. Junior Academy of Science: The Junior Academy is in need of new directorship. Jerry Manion, the interim director, requested continued support through an allotment of \$250 which was approved.
10. Intel Talent Search: A request of \$64.95 from Jim Murray for student awards was approved. Jim Murray is also stepping down as director.
11. Junior Science and Humanities Symposium has a new director. Linda Kondrick has taken over duties as director for the late Tom Palko, life member of the Academy (see AAS memorial in this journal). A request and approval for continued support of \$100 toward their student awards was given.

12. Committee Reports:

- a. Biota Committee: Doug James relays that online access to the Biota lists are moving forward, slowly but surely.
- b. Science Education Committee: Mostafa Hemmati reported that a large effort will be made at the 2006 meeting to advertise this committee meeting time and location so that many members interested can attend.
- c. Development Committee: Betty Crump related her experiences in the wonderful world of grant applications in order to secure funding and sponsorship of AAS programs. The Academy now has an NSF fastlane account and a Dunn's non-profit number to help facilitate our endeavors. Betty is looking at other Academies and their resources, sponsorship, budgets, etc. to provide some ideas for the AAS.
- d. AAAS: Mostafa Hemmati reported on his involvement in the American Association for the Advancement of Science Meeting in Washington, D.C. He will continue to serve as our representative to the AAAS.
- e. Arkansas Science Teachers Association: Tillman Kennon presented issues related to science education and teacher professional development to the Executive Committee.

13. New Business:

- a. Anthony Grafton from Lyon College announced the dates of the 90th Annual meeting as April 7-8, 2006 on the Lyon College campus in Batesville, Arkansas. They have already designed a website and part of their LOC were in attendance at this meeting scouting things out.
- b. It was suggested that two deadlines be followed for the 2006 meeting. Deadline #1 an intent deadline

with author and title only, which could be as early as January, followed by the more traditional March abstract and registration deadline. This would allow more people to evaluate their interest in that year's meeting. Lyon College agreed.

- c. An invitation from Arkansas Tech University in Russellville to host the 2007 AAS meeting was also accepted. The 91st meeting will be held April 13-14, 2007 in order to avoid the Easter weekend during the second weekend of that month in 2007. Locations for 2008 and beyond are being solicited.
- d. Walt Godwin announced that the official AAS website is robust as ever. Any errors are to be reported to him immediately. Links to our various affiliations are going to be placed on the site as well, demonstrating our support and symbiosis with other science groups at the state and national level. The website is located at <http://cotton.uamont.edu/~aas>.
- e. A motion to "allow a member who makes a presentation (oral or poster) at the annual AAS meeting, to submit a manuscript for the peer review process of the *Journal* and that the author instructions in the *Journal* reflect this new policy," was approved.
- f. Wayne Gray suggested that the Executive Committee look into hosting the overall winner of the Junior Academy to come to the AAS annual meeting to make a short presentation. This will be considered.
- g. Resolutions for the annual meeting were read to the membership by David Saugey (see Resolutions).

14. Nominations Committee: Mostafa Hemmati announced nominations for Vice-President of the Academy by the nominations committee (Mostafa Hemmati, Scott Kirkconnell, and Robert Engelken) All Academy members voted between two candidates, Collis Geren, Dean of the Graduate School at the University of Arkansas, and Andrew Sustich, Dean of the Graduate School at Arkansas State University. After voting of the membership, Collis Geren was elected as Vice-President, joining Stan Trauth (President-Elect) and David Saugey (current Vice President) as the new leadership for the upcoming year.

15. Closing: New president Stan Trauth accepted the ceremonial gavel from outgoing president Betty Crump after sending her out with a fishy-looking plaque honoring her service to the Academy.

Meeting adjourned.

Jeff Robertson, AAS Secretary

APPENDIX A

2005 AAS Award Winners

ORAL PRESENTATIONS

GRADUATE STUDENT AWARDS

Life Science:

1st Place Toby M. Ward/UAMS
Construction of Recombinant Varicella Vaccines
Expressing Respiratory Syncytial Virus Antigens.

2nd Place Nicholas J.C. Brown/ATU
Breeding Response of Indigo Buntings (*Passerina cyanea*) to
Oak-Woodland Restoration in the Ozard National Forest.

3rd Place Jacy L. Wagnon/UAMS
ADE6-M26 mRNA Activates Meiotic Recombination at the
ADE6 GENE OF *S. pombe*.

Environmental Science Awards

1st Place J.L. McCallum/LSU–Shreveport
Use of an Urban Wetland by Waterbirds: a Baseline Study
for a long-term ecological monitoring site.

2nd Place Justin M. Homan/ATU
Quantification of Stream Dryness in Interior Highland
Streams.

3rd Place Katherine Winsett/UofA–Fayetteville
Myxomycetes of Mississippi.

Physical Science Awards

1st Place C. Graves/ASU
A Survey on the Vertex Cover Problem.

UNDERGRADUATE STUDENT AWARDS

Life Science:

1st Place Trixie Lee/Harding University
Posthatching Yolk Reserves: The Effect of Starvation on
Early Growth of *Apalone mutica* Hatchlings.

2nd Place Elizabeth C. Compton/ASU
Do Snake Skins Deter Predation of Great Crested
Flycatcher Nests: An Artificial Nest Experiment.

3rd Place Jonathan Treece/ASU
Nicotine and Developing Autonomic Neurons of
Mammalian Nervous System.

Environmental Science Awards

1st Place Michelle R. Dare/HSU
The Effect of Indigenous Villages on Coral Reef
Community Structure in Kuna Yala, Panama

2nd Place Thomas P. Saul/HSU
Freshwater Sponge Community Composition and
Characteristics of Occurrence of *Egeria Densa* in Degray
Lake, Arkansas and a Report of Sponge Occurrence in
Lake Ouachita, Arkansas.

Physical Science Awards

1st Place Christopher Fisher/ATU
Theory and Practicality of a Solar/Electric Car.

2nd Place Patrick McLaurin/Lyon College
Calculated Differences in the Solvation of Chiral Solutes in
Chiral Solvents.

3rd Place Hunter Broadaway/ASU
Astrophysical Applications of the Nuclear Equation of
State.

HONORABLE MENTIONS

Physical Science Awards

Matthew LeMay/ASU
Deposition and Characterization of Multifunctional
Ferromagnetic/Optoelectronic Composite Films.

Robby Davis/ATU
Density Functional Studies of the Structure and Bonding of
Nitrosyl Metalloporphyrin Complexes..

APPENDIX B

RESOLUTIONS

BE IT RESOLVED that we, the membership of the Arkansas Academy of Science, offer our sincere appreciation to Hendrix College for hosting the 89th Annual Meeting of the Academy, held 8-9 April, 2005.

We thank the Local Arrangements Committee: Chair, Joyce Hardin, Pradip Bandyopadhyay, Mike Bell, Laura Conley, Jennifer Dearolf, Andrea Duina, Linda Gatti-Clark, Jennifer Gilley, Darby Grace, Bruce Haggard, Joe Lombardi, Matt Moran, Rick Murray, Rachel Rein, Jennifer Roller, Mark Sutherland, and all of the student workers and staff who collectively contributed to such a successful meeting. Special appreciation is extended to Becky Neis for her work on the design of the program cover.

Appreciation is expressed for inviting us to this gorgeous campus and for use of these excellent facilities and the hospitality shown to us by Hendrix personnel. We especially thank our keynote speaker Dr. Gary W. Barrett for his thought provoking presentation entitled "Challenges of Integrative Science."

We thank Hendrix College for their contributions to the Social and Banquet, which were both excellent and thoroughly enjoyed by all. And we thank Provost Dr. Bob Entzminger for his warm welcome. We sincerely appreciated and enjoyed the fine music provided by the Student Jazz Band.

The Academy recognizes the important roles assumed by session chairs and expresses sincere appreciation to Scott Austin, Leo Carson Davis, Jennifer Dearolf, James Engman, Gabe Ferrer, Anthony Grafton, Phoebe Harp, Mostafa Hemmati, Robert Kissell, Mike Rapp, Henry Robison, Brett Serviss, Bill Shepherd, Wayne Wahls, Richard Walker, and T. Yamashita.

A special appreciation is owed to those individuals who devoted considerable time and energy to judging student papers. They are Scott Austin, Betty Crump, Paul Doruska, Gabe Ferrer, Barry Gehm, Joe Guenter, Mostafa Hemmati, Malcolm McCallum, Mike Rapp, Blake Sasse, Malathi Srivatsan and Deborah Wade.

We gratefully acknowledge the various directors of the science and youth activities which are supported or supervised by the Academy: Mostafa Hemmati, Science Education Committee; Jim Murry, Intel Talent Search; Jerry Manion, Junior Academy of Science; and Linda Kondrick, Junior Science and Humanities Association.

We wish to thank all those who served as directors at Regional Science Fairs and Junior Academy meetings including Bryan DeBusk, Jim Edson, Lynne Hehr, Tillman Kennon, Brian Monson, Mike Rapp, Kathryn Shinn and Gus Williamson.

We congratulate all who presented papers and posters at this meeting. Student participants are especially recognized since their efforts contribute directly to the future success of the Academy and the improvement and advancement of science in Arkansas.

We very much appreciate Walt Godwin for maintaining the Academy website.

The continued success of the Academy is due to its strong leadership. We offer sincere thanks to our officers for another excellent year: Betty Crump (President), Stan Trauth (President-Elect), David Saugey (Vice-President), Wayne Gray (Past-President), Jeff Robertson, (Secretary and Newsletter Editor), Joyce Hardin (Treasurer), Stan Trauth (*Journal* Editor-in-Chief), Chris McAllister (*Journal* Managing Editor), and Henry Robison (Historian).

Finally, the membership wishes to posthumously recognize Tom Palko for his many years of service and contributions to his students, the Academy, and to the science and biology profession.

Respectfully submitted this 9th day of April, 2005
Resolution Committee
David Saugey, Chair
Joyce Hardin
Mostafa Hemmati

Arkansas Academy of Science

MEMBERS 2006

LIFE MEMBERS

FIRST MI	LASTNAME	INSTITUTIONS
Robbin C.	Anderson	University of Arkansas-Fayetteville
Edmond J.	Bacon	University of Arkansas-Monticello
Vernon	Bates	Ouachita Mtns. Biological Station
Floyd	Beckford	Lyon College
Wilfred J.	Braithwaite	University of Arkansas-Little Rock
David	Chittenden	Arkansas State University
Calvin	Cotton	Geographics Silk Screening Co.
Betty	Crump	U.S.D.A.
James	Daly	University of Ark./Medical Sciences
Robert H.	Dilday	University of Arkansas-Fayetteville
Mark	Draganjac	Arkansas State University
Jim	Edson	University of Arkansas-Monticello
Daniel R.	England	Southern Arkansas University
William L.	Evans	University of Arkansas-Fayetteville
Kim	Fifer	University of Ark./Medical Sciences
Linda	Gatti-Clark	Hendrix College
Collis	Geren	University of Arkansas-Fayetteville
Ronald	Javitch	Natural History Rare Book Found.
Roger	Koeppe	University of Arkansas-Fayetteville
Roland	McDaniel	FTN Associates
Grover	Miller	UAMS
Dennis	Richardson	Quinnipiac College
Jeff	Robertson	Arkansas Tech University
Stephen	Sewell	University of Mississippi
James H.	Fribourgh	University of Arkansas-Little Rock
Arthur	Fry	University of Arkansas-Fayetteville
John	Giese	Ark. Dept. of Env. Qual. (ret)
Walter	Godwin	University of Arkansas-Monticello
Joe M.	Guenter	
Joyce	Hardin	Hendrix College
George	Harp	Arkansas State University
Phoebe	Harp	Arkansas State University
Gary	Heidt	University of Arkansas-Little Rock
Ronnie	Helms	
Mostafa	Hemmati	Arkansas Tech University
Carol	Jacobs	
Douglas	James	University of Arkansas-Fayetteville
Arthur	Johnson	Hendrix College
Cindy	Kane	University of Ark./Medical Sciences
Donald	Mattison	March of Dimes National Office
Herbert	Monoson	Ark. Science & Technology Authority
Clementine	Moore	
Gaylord	Northrop	University of Arkansas-Little Rock
James	Peck	University of Arkansas-Little Rock
Michael	Rapp	University of Central Arkansas
Henry	Robison	Southern Arkansas University
David	Saughey	U.S. Forest Service
Betty	Spears	Ouachita Mtns. Biological Station
Richard	Spears	Ouachita Mtns. Biological Station
George	Templeton	University of Arkansas-Fayetteville
Stanley	Trauth	Arkansas State University
Gary	Tucker	FTN Associates
Renn	Tumlison	Henderson State University
James	Wickliff	University of Arkansas-Fayetteville
Robert	Wiley	University of Arkansas-Monticello

REGULAR MEMBERS

FIRST MI	LASTNAME	INSTITUTIONS
Alois	Adams	University of Arkansas-Little Rock
Scott	Austin	University of Central Arkansas
Anwar A.	Bhuiyan	Arkansas Tech University
Stephen K.	Boss	Department of Geosciences
William R.	Bowen	Jacksonville State Univ. (AL-retired)
Morris	Bramlett	UAM
Tom	Buchanan	University of Arkansas-Ft. Smith
Alan	Christian	Arkansas State University
Amanda	Crnkovic	Ouachita Mountains biological Station
Prabudha	Dahal	UAM
Jennifer	Dearolf	Hendrix College
Paul	Doruska	Arkansas Forest resources Center-UAM
Andrea	Duina	Hendrix College
Jane	Duina	Henderson State University
Rudolph	Eichenberger	Southern Arkansas University
Roberts	Ficklin	UAM
Thomas	Foti	Arkansas Natural Heritage Commission
Jonathan	Fuller	TAMU-Texarkana
Barry	Gehm	Assistant Professor
Wilson J.	Gonzalez	Arkansas Tech University
Anthony	Grafton	Lyon College
John	Graham	Arkansas Tech University
Wayne	Gray	University of Ark./Medical Sciences
Laurence	Hardy	Ouachita Mountains biological Station
John L.	Harris	Arkansas Highway Dept.
Philip	Hyatt	US Forest Service
Abul	Kazi	UAPB
Tillman	Kennon	ASU
Shaheen	Khan	UAPB
Scott	Kirkconnell	ATU
Robert E.	Kissell Jr.	University of Arkansas-Monticello
Brian	Lockhart	US Forest Service
Michael	Looper	USDA-ARS
Sayeed	Mahmood	UAM
Michael	Matthews	HSU
Chris	McAllister	Texas A&M-Texarkana
Malcolm	McCallum	
Scott	McConnell	UAM
Rose	McConnell	University of Arkansas-Monticello
Warren	Montague	USDA-Forest Service
Matthew	Moran	Hendrix College
Rod	Nelson	University of Arkansas-Fort Smith
Russell	Nordeen	UAM
Reine	Protacio	UAMS
Janet	Rader	Southern Arkansas University
Satyendra	Rajguru	University of Arkansas-Fayetteville
Thomas	Risch	ASU
E. Moye	Rutledge	
Blake	Sasse	Arkansas Game and Fish Com.
Bill	Shepherd	
David	Simons	Ouachita Mtns. Biological Station
Malathi	Srivatsan	Arkansas State University
Richard	Standage	USDA Forest Service
Philip A.	Tappe	University of Arkansas- Monticello
Bruce	Tedford	Arkansas Tech University
Jonathan	Treece	ASU
Deborly	Wade	Central Baptist College
Brian	Wagner	Arkansas Game and Fish Commission
Wayne	Wahls	UAMS
Richard	Walker	UAPB
Gerald	Walsh	
Robert	Weih	University of Arkansas-Monticello
Benjamin	Wheeler	Arkansas State University
William	Willingham	UAPB
Tsunemi	Yamashita	Arkansas Tech University
Douglas	Zollner	The Nature Conservancy

SUSTAINING MEMBERS

FIRST MI	LASTNAME	INSTITUTIONS
David L.	Davies	University of Ark./Medical Sciences

FIRST MI	LASTNAME	INSTITUTIONS
Thomas	Saul	Henderson State University
Christy	Schuchardt	Lyon College
Jason	Self	ASU-Jonesboro
Brian	Sepko	UA-Fayetteville
Harish	Shandilya	UA-Monticello
Alex	Skorcz	ASU-Jonesboro
C.J.	Spurlock	Lyon College
Nathan	Stephens	ASU-Jonesboro
Brandon	Thurrow	Hendrix College
Jonathan	Treece	ASU-Jonesboro
Jacy	Wagnon	UA-Monticello
Toby	Ward	UA-Monticello
Bradley	Williams	UCA
Katherine	Winsett	UA-Fayetteville
Billy	Yancey	ASU-Jonesboro
Ashley	Young	UA-Monticello
Lauren	Young	UA-Monticello

STUDENTS MEMBERS

Eileen	Banach	OMBS
Velbona	Boshan	Lyon College
Hunter	Broadaway	ASU-Jonesboro
Jeff	Brooks	University of Louisiana-Monroe
Nicholas	Brown	Arkansas Tech University
Christopher	Bryant	UA-Monticello
Stephanie	Bunch	UA-Monticello
Misty	Caple	TAMU-Texarkana
Elizabeth	Compton	
Laura	Conley	Hendrix College
Christopher	Curry	UA-Fayetteville
Selma	Dagtas	UA-Monticello
Michelle	Dare	Henderson State University
Pupali	Das	UA-Monticello
Robby	Davis	Arkansas Tech University
Mark	DeWall	UA-Monticello
Ryan	Ewing	UT-Austin
Christopher	Fisher	Arkansas Tech University
Johnathan	Fuell	Henderson State University
Jonathan	Fuller	TAMU-Texarkana
Tobin	Fulmer	Henderson State University
Jun	Gao	UA-MonticelloS
Nicholas	Girondo	Arkansas Tech University
Adam	Green	UA-Monticello
Joe	Guenter	UA-Monticello
David	Harlan	ASU-Jonesboro
Jonathan	Hartley	UA-Monticello
Carrie	Hawkins	UA-Fayetteville
Waylon	Hiler	ASU-Jonesboro
Justin	Homan	Arkansas Tech University
Matthew	Hurd	UA-Monticello
Arvind	Jamakhandi	UA-Monticello
Erin	Knoll	Arkansas Tech University
Trixie	Lee	Harding
Matthew	LeMay	ASU-Jonesboro
Jamie	McCallum	LSU-Shreveport
Matthew	McConnell	UA-Monticello
Sam	McCord	ASU-Jonesboro
Patrick	McLaurin	Lyon College
Laura	McWilliams	Lyon College
Christy	Melhart	UA-Fayetteville
Joe	Milanovich	ASU-Jonesboro
Willie	Nelson	Arkansas Tech University
Yang	Ou	UA-Monticello
Tess	Perez	SAU
Elizabeth	Pope	Henderson State University
Jennifer	Roller	Hendrix College
Omar	Sabbarini	UA-Fayetteville



HENDRIX

Arkansas Academy of Science
89th Annual Meeting
April 8-9, 2005

Welcome

On behalf of Hendrix College, welcome to the 89th meeting of the Arkansas Academy of Science. We are delighted to have you here and hope that you will take time to enjoy our campus. Hendrix has a tradition of excellence in the sciences from outstanding staff and students to modern facilities. This meeting brings the intellectual efforts of scientists across Arkansas to our campus so our community can participate in the engaging and active process of sharing scientific knowledge. We wish you a successful meeting.

J. Timothy Cloyd, Ph.D.
President, Hendrix College

Welcome to the Arkansas Academy of Science's 89th Annual Meeting. Thank you all for your attendance, participation and involvement in the AAS as well as the Arkansas Junior Academy of Science. We are proud to have renewed our association with and support of the AJAS. We are looking forward to the diverse presentations over the next two days, as well as the chance to visit with friends and colleagues that we seldom get to see otherwise. On behalf of the AAS membership, I want to extend our appreciation to Dr. Joyce Hardin and Hendrix College for hosting this year's annual meeting.

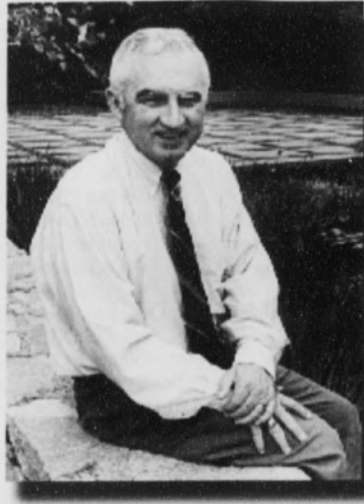
Betty G. Crump
President, Arkansas Academy of Science

2005 AAS Local Arrangements Committee

Dr. Pradip Bandyopadhyay, Mr. Mike Bell, Ms. Laura Conley, Dr. Jennifer Dearolf, Dr. Andrea Duina, Dr. Linda Gatti-Clark, Ms. Jennifer Gilley, Ms. Darby Grace, Dr. Bruce Haggard, Dr. Joyce Hardin, Dr. Joe Lombardi, Dr. Matt Moran, Dr. Rick Murray, Ms. Rachel Rein, Ms. Jennifer Roller, and Dr. Mark Sutherland.

The committee would like to thank the members of Hendrix Biological Society and Dr. Bob Entzminger, Provost of Hendrix College, for their support.

Keynote Address



Gary W. Barrett was born and raised on a farm in Princeton, Indiana, attended a one-room school house, and spent most of his early days in this rural setting. He received a B.S. in biology from Oakland City University in 1961, an M.S. in biology from Marquette University in 1963, and a Ph.D. in zoology/ecology from the University of Georgia in 1967 under the guidance of the legendary ecologist Eugene Odum. Dr. Barrett spent one year teaching at Drake University before moving to the University of Miami, Ohio in 1968. There he worked for 26 years, eventually rising to the level of distinguished professor. In 1994 he moved to the University of Georgia where today he holds the Odum Professorship of Ecology. His research interests include landscape ecology, restoration ecology, agroecosystems, and ecological education. He served as the ecology program director for the National Science Foundation from 1981-83, president of the United States section of the International Association for Landscape Ecology from 1998-99, president of the American Institute of Biological Sciences in 1998, and president of the Association for Ecosystem Research Centers from 1995-1996. This year, he is receiving the annual award from the Center for Undergraduate Research Opportunities for his outstanding work with undergraduate students at Georgia. Dr. Barrett has made numerous contributions to the field of ecology and mentored many undergraduate and graduate students. He has authored five books and over 160 publications. In 2005, he coauthored with the late Eugene Odum, the 5th edition of *Fundamentals of Ecology*, one of the premier textbooks in the ecological field.