


2018

## Business Meeting Report (Secretary's and Treasurer's Report)

Academy Editors

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### Recommended Citation

Editors, Academy (2018) "Business Meeting Report (Secretary's and Treasurer's Report)," *Journal of the Arkansas Academy of Science*: Vol. 72 , Article 38.

Available at: <https://scholarworks.uark.edu/jaas/vol72/iss1/38>

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# ARKANSAS ACADEMY OF SCIENCE

102<sup>nd</sup> Annual Meeting April 6-7, 2018

Arkansas State University, Jonesboro

**R. Paneer Selvam**  
President

**Frank Hardcastle**  
President-Elect

**Stephen Addison**  
Vice-President

**Edmond Wilson**  
Past President

**Collis Geren**  
Secretary

**Mostafa Hemmati**  
Treasurer

**Mostafa Hemmati**  
JAAS  
Editor-in-Chief

**Ivan Still**  
JAAS  
Managing Editor

**Rami Alroobi**  
Webmaster

**Kimberly Smith**  
Historian

**R. Panneer Selvam**  
Newsletter Editor

**Jess Kelly**  
Undergraduate grants

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## Secretary's Report MINUTES OF THE 102<sup>nd</sup> MEETING

**ARKANSAS ACADEMY OF SCIENCE  
SPRING 2018 BUSINESS MEETING MINUTES  
April 7, 2018 – 12:00 noon.  
Arkansas State University, Jonesboro**

The meeting was called to order at 12:09 p.m. by President R. Panneer Selvam.

### **1. President's Report**

Panneer welcomed everyone and reported he had a great time at the meeting. He congratulated Andy Sustich and Rajesh Sharma for a job well done. He commented that the AAS had made great progress during the last few years and many people were involved in making that happen. He hoped even more people would take a leadership role in Academy efforts.

### **2. Local Arrangements Committee: Rajesh Sharma**

There have been 215 people registered for the meeting including 88 faculty, 126 students, and one sponsor. 150 abstracts are included in the meeting book, including 78 oral presentations and 72 poster presentations. Areas of presentations included Biological Sciences, Chemistry, Physics, Engineering, Computer Science, and Geosciences.

17 universities and 5 government agencies and other institutions were represented at the meeting.

This meeting would not be possible without the efforts of Emily Devereux and the staff of the A-State Research and Technology Transfer Office.

### **3. Secretary's Report: Collis Geren**

Secretary Collis Geren requested help in getting a complete list of all members e-mail addresses.

### **4. Treasurer's Report: Mostafa Hemmati**

Mostafa Reported it was a good year for the Academy with a net gain of more than \$15K. The full report is available in the Executive Committee Meeting report.

The report was reviewed by the Auditing Committee (Dr. Collis Geren and Dr. Ivan Still, who verified all calculations). All is well, and thanks go to Mostafa for good management (see AAS financial statement in appendix.)

### **5. Historian's Report: Kim Smith**

Arkansas State University started as one of 4 agricultural high school, created by an act of the state legislature in 1909. While the campus was being built, the first classes were offered in downtown Jonesboro in 1910. 189 students were taught by 8 faculty, originally emphasizing agriculture, horticulture, and textile manufacture. Curricular expanded into junior college after World War 1, and the name was changed to First District Agricultural and Mechanical College in 1925. A training school was established in the 1920s with K through 12 classes for students who wanted to be teachers. This school lasted into the 1950s and is commemorated by an arch on campus.

In 1931, fire destroyed the main building on campus. It was replaced by Wilson Hall, named for

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R. E. Lee Wilson, who built the hall, starting a long association with ASU and the Wilson family. The first 4-year degree was awarded in 1932 and the name was changed in 1933 to Arkansas State College.

During World War II, enrollment dropped to 114, mostly female student, but the end of the war saw a great influx of students on the GI bill in the late 40s, necessitating temporary housing for the new students and their families. Victor Kays resigned in 1943 after 34 years as president.

Carl Reng became president in 1951 and aggressively expanded the campus and lobbied for university standing, which was granted in 1967. Soon after, sports flourished at ASU with strong programs in football, baseball, basketball, and track and field. Reng retired in 1975, after 24 years as president.

In the late 80s, the first doctoral program was established in educational leadership and their sports program moved into Division 1. In the new millennium, the Arkansas Biosciences Institute was established on campus. The growth of the satellite campuses necessitated forming a system in 2006.

Today there are just over 14,000 students enrolled, with an average class size of 29, and a 17 to 1 student to faculty ratio.

The 3 other high schools established in 1909 are now Arkansas Tech University, Southern Arkansas University, and University of Arkansas at Monticello.

### 6. Journal (JAAS #71) Report:

#### Editor-In-Chief Mostafa Hemmati

During the spring 2017 semester, 39 manuscripts were submitted for consideration for publication in volume 71 of the Journal of the Arkansas Academy of Science (JAAS). Soon after receiving the manuscripts, all manuscripts were sent to reviewers and three Associate Editors. The reviewers sent all manuscripts and their comments back before the end of July 2017.

Reviewers' comments were sent to the authors between July 15, 2017, and July 30, 2017. That process was completed by July 30, 2017. The authors were asked to respond to the reviewers' comments and return their manuscript back to Managing Editor, Dr. Still, by August 31, 2017. That allowed more than a month of time for the authors to respond to the reviewers' comments and pay for the Journal page charges. In the same letter, the authors were asked to mail a check for their page charges as well. August

31, 2017, was also the deadline for receipt of the payment of the page charges; we had to extend the deadline up to September 30 this time.

One manuscript was rejected due to major formatting problems and two manuscripts were rejected by reviewers. Therefore, volume 71 of the Journal will include 36 manuscripts. In the process of manuscript submission, no manuscripts were lost.

Three Associate Editors for Physical Sciences, Dr. Collis Geren, Dr. Frank Hardcastle and Dr. Rajib Choudhury helped considerably with locating possible reviewers for the manuscripts or serving as reviewer for more than one manuscript. I am grateful for all three Associate Editors' assistance. All activities relating to the handling of the manuscripts were performed electronically, and on the whole this expedited the review process. Managing editor post was performed by Dr. Ivan Still and as usual he did an excellent job. The Journal was completed by December 30, 2017. Printing of the Journal was completed by March 18, 2018. I used the Russellville Printing Company for printing of the Journal.

#### Managing Editor Ivan Still

Thirty nine manuscripts were submitted for consideration of publication in volume 71 (2017) of the JAAS. Of these 23 were submitted via email and 15 via the new electronic manuscript submission process on the Journal website. One accepted manuscript was carried over from the previous year, due to late payment of page charges

By the beginning of May, emailed-manuscripts were checked for style, grammar, format, etc, to ensure compliance with the "Instructions to Authors". One paper was rejected at this Editorial stage due issues with formatting that the authors failed to resolve in a timely fashion. With handling manuscripts coming from 2 sources, manuscripts from Scholarworks were not checked for compliance at this stage, but were passed to Dr. Hemmati and Dr. Barron to start the review process.

Abstracts were sent to potential reviewers by mid to late May. Dr. Hemmati handled Physical Science papers and recruited Dr. Collis Geren, Dr. Frank Hardcastle and Dr. Rajib Choudhury to serve as Associate Editors, while Biological Science manuscripts were handled by Dr. Still and Dr. Barron (Ecology/Environmental papers). The majority of manuscripts were sent out electronically for review by the beginning of June.

Authors were informed if their paper was accepted

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with the need for minor or major revision or whether their paper was rejected in July. Authors were asked to return their revisions to their handling editor, electronically (email or Scholarworks) by August 31, with the page charges being submitted to Dr. Hemmati, Editor-in-Chief. Six manuscripts required major corrections and 2 manuscripts were rejected. Once reviews were returned to handling editors, control of manuscript processing was returned to the Managing Editor.

The total number of manuscripts that will be published this year is 36 (down from the 46 from the 100th meeting), of which 28 were Articles and 8 were in General Note format. Volume 71 is 266 pages long (including cover pages). I have changed the format of the journal, moving the meeting report to the back of the journal, and entering manuscripts in order of processing/payment of page charges. These changes streamlined production editing of the Journal and will expedite processing for future volumes. I have maintained the “Instructions to Authors” in the hardcopy this year, but once I have ensured that the Instructions are fully finalized for electronic submission, the Instructions will be reduced in the hard copy to then link to the Academy’s Journal website and the Scholarworks site.

I would like to thank the reviewers and Assistant/Associate Editors for their help in the preparation of volume 71. A special note of thanks to Bennet Grooms and Rachel Urbanek who acted as the initial submission- guinea pigs.

### **Report on Changes in the Journal Submission system.**

This year has marked the complete move to an all-electronic submission process. This will expedite processing and authors can keep track of what is happening with their manuscript.

Over the next few years, I will streamline the reviewer database on Scholarworks and add reviewers that I have used in the past few years. This will grow the database to aid future review of incoming manuscripts. I am doing this as I prepare to retire from this position with the completion of volume 75 in 2021. With that in mind we have put out a call for members who wish to become more involved with the production of the JOURNAL to consider becoming Associate Editors.

### **7. Webmaster: Rami Alroobi**

Dr. Alroobi was not able to attend this year’s

meeting, but the Committee felt he is doing an excellent job and repeated their feeling that financial resources were available to assist him in doing an even better job.

### **8. Newsletter: Panneer Selvam**

Panneer reported that a single newsletter was produced and distributed in January. The newsletter itself stands as the report. Panneer still has hopes of producing two newsletters annually. There was discussion of how to broaden the distribution of the newsletter to people who are not currently members. The Committee felt that sending the newsletter to appropriate STEM deans statewide and asking them to distribute to their faculties might prove useful.

### **9. Committee Reports:**

#### **Nominations Committee: Mostafa Hemmati**

Frank Hardcastle inherited the presidency of the Academy, with Stephen Addison as President-Elect and Panneer Selvam becomes Past President.

Andy Sustich was nominated by the Executive Committee for the 4-year term as Vice President, President Elect, President, and Past President. A call for additional nominations from the floor was met with silence. Andy was elected by acclamation.

#### **Undergraduate Research Awards: Jess Kelly**

Mostafa Hemmati reported that due to a sudden severe illness Jess Kelly had not reported the results of the assessment of 13 undergraduate research proposals at the time of the meeting. The Academy will award 3 such grants via e-mail as soon as the results are known. Our best wishes were sent to Jess.

After the meeting, Jess Kelly reported that Andrew Feltmann from UCA, Bipal Simkhada from ATU, and Sarah Martin from UCA were awarded the research grants. Jess also reported he is now cancer free!

#### **AAAS Representative**

Abdul Bachri will represent AAS at the national AAAS meeting.

#### **Outreach Committee Report**

What follows is the complete report by Ed Wilson on efforts in outreach.

The AAS will enlarge its exposure to the citizens of Arkansas by having articles published in State Newspapers, Magazines and Local Interest

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Magazines. These articles will be written on a fifth grade level to increase the exposure to younger people of the State. They will be accurate and complete and be interesting and academic language will be avoided. The articles will contain activities for young and old in so far as possible. The AAS website will host these articles.

An update of activities carried out will be made at the AAS Fall Executive Meeting.

Wilson will make visits to Arkansas Wildlife experts and interview them as well as other groups who are experts (the Audubon Society).

Part of this plan will be to have a "Ask the Experts" column in which citizens will pose questions and be given the best possible answers.

An informal data base of Arkansas Scientists who wish to participate will be collected and the Coordinator will work with them and the newspapers and magazines to produce interesting and information information about the amazing happenings in nature and in science.

Examples of topics might be:

*Are there good snakes?*

*Are starlings helpful or hurtful to the environment and to farming?*

What is the biggest bird in Arkansas? the smallest?

*What plants/animals are on the brink of extinction or flourishing?*

*Are spiders good? Bad?*

People to contact:

1. Kory Roberts - [www.herpsofarkansas.com](http://www.herpsofarkansas.com)
2. E.O. Wilson (Harvard) - "Each species, to put the matter succinctly, is a masterpiece. It deserves that rank in the fullest sense: a creation assembled with extreme care by genius."
3. Patrick Ruhl (PhD Perdue; birds) will be joining our dept. faculty this fall at Harding University
4. Nathan Mills – Bird Man of Harding University

### 11. Business Old and New:

#### **Item 1: Upcoming meetings**

The 103rd annual meeting in 2019 of the Academy will be hosted by Hendrix College. Todd Tinsley will chair the meeting. The 2020 meeting (104th) is being organized by-Ragupathy Kannan, at UA, Fort Smith.

#### **Item 2: Fellows Proposal**

A proposal to establish Fellows and Honorary Fellows in the Arkansas Academy of Science by Kim Smith follows:

##### *Fellows*

The Fellows of the Arkansas Academy of Sciences are a group of distinguished scientists, appointed in recognition of their outstanding contributions to the sciences in Arkansas. Any Member of the Academy who has made a distinguished or substantial contribution to the areas of teaching, research, and service in any area of science in Arkansas may be nominated. AAS Fellows serve as ambassadors for the Society and as such are encouraged to engage in outreach and other activities that will benefit and promote both AAS and the science profession in Arkansas.

Arkansas Academy of Science members are invited to submit nominations for Fellows. A potential Fellow must be an active member of the Academy for a minimum of 5 years and have contributed to science in one or more of the following ways: (a) outstanding scientific research, (b) inspired teaching of science, or (c) significant leadership in the Academy. Nominations and seconds for Fellows should be submitted to the current Chair of the Committee on Nominations for Fellows and Honorary Fellows. A nomination consists of 1) a CV of the nominee and 2) a letter outlining the nominee's qualifications and contributions to science in Arkansas and AAS in particular, if appropriate. The Committee will make recommendations on the nominations to the Executive Council, who will vote on the nominations, a simple majority needed for election. Fellows will be announced at the Society's annual meeting, and recipients will be presented with a certificate. Fellows are appointed for life. There are no restrictions on the number of Fellows elected each year.

##### **Honorary Fellows**

The Honorary Fellows of the Arkansas Academy of Sciences are a group of distinguished individuals, appointed in recognition of their outstanding contributions to the sciences in Arkansas, who are not members of AAS. Any individual who has made a distinguished or substantial contribution in any area of science in Arkansas may be nominated. AAS Honorary Fellows serve as ambassadors for the Society and as such are encouraged to engage in

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outreach and other activities that will benefit and promote both AAS and science in Arkansas.

Arkansas Academy of Science members are invited to submit nominations for Honorary Fellows. Candidates must have spent a significant portion of their professional careers in Arkansas or contributed substantial research findings within Arkansas. Nominations and seconds for Honorary Fellows should be submitted to the current Chair of the Committee on Nominations for Fellows and Honorary Fellows. A nomination consists of 1) a CV of the nominee and 2) a letter outlining the nominee's qualifications and contributions to science in Arkansas. The Committee will make recommendations on the nominations to the Executive Council, who will vote on the nominations, a simple majority needed for election. Honorary Fellows will be announced at the Society's annual meeting, and recipients will be presented with a certificate. Honorary Fellows are appointed for life. There are no restrictions on the number of Fellows elected each year.

### **New AAS Committee**

Committee on Nominations for Fellows and Honorary Fellows – This committee makes recommendations to the Executive Council based on nominations for Fellow and Honorary Fellow. It consists of 3 Fellows, each appointed to a 3-year term. The Chair will be the person in their 3rd year. The Committee recommends new members to the Executive Committee for approval.

### **11. Motions and Action Items:**

Dr. Mostafa Hemmati requested a discretionary budget of \$8,000 for the coming year for items other than for the journal.

Dr. Frank Hardcastle was installed as the President for 2018-2019. He requested that anyone with suggestions for improving the Academy should e-mail him directly at rps@uark.edu. Steve Addison became President-Elect, became Vice President, and Panneer Selvam becomes Past President.

The meeting adjourned at 12:50 pm'

Minutes prepare by Secretary Collis Geren, April 30, 2018.

## Treasurer's Report ARKANSAS ACADEMY OF SCIENCE 2018 FINANCIAL STATEMENT December 3, 2018

<b>Balance – December 3, 2018</b>	<b>\$150,132.66</b>
<b>Balance – December 4, 2017</b>	<b><u>\$142,987.74</u></b>
<b>Net Gain</b>	<b>\$7,144.92</b>

### **DISTRIBUTION OF FUNDS**

Checking Account Dec. 3, 2018 Arvest Bank, Russellville	\$4,410.14
PayPal Membership Account: Available funds on Dec. 3, 2018	\$1,962.20
PayPal Registration Account – Available Funds on Dec. 3, 2018	\$54.60
Certificate of Deposit Dec. 3, 2018 Includes Phoebe and George Harp Endowment Arvest Bank, Russellville	\$51,571.04
Certificate of Deposit Dec. 3, 2018 Arvest Bank, Russellville	\$51,571.04
Certificate of Deposit Dec. 3, 2018 Arvest Bank, Russellville	\$40,000.00
Combined interest from Arvest Bank YTD (December 3, 2018): \$228.89+\$105.86+\$228.89 = \$563.64	
<b>TOTAL</b>	<b><u>\$150,132.66</u></b>

### **INCOME**

1. Transfer from Checking to CD (Oct. 15, 2018)	<b>\$11,898.64</b>
2. GIFTS RECEIVED	
a. Contribution, Matthew Moran	\$30
	<b>\$30.00</b>
3. INTEREST (Interest Earned Year to Date December 3, 2018)	
a. Checking Account, Arvest Bank	1290      \$0
b. CD1 (Arvest Bank)	1357      \$228.89
c. CD2 (Arvest Bank)	1358      \$228.89
d. CD3 (Arvest Bank)	1550      \$105.86
All interest was added to the CDs	<b>\$563.64</b>

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<b>4. JOURNAL</b>		<b>6. MEETING EXPENSES</b>	
a. Page Charges	\$9,650		<b>\$0</b>
b. Subscriptions, University of Arkansas	\$250		
	<b>\$9,900</b>		
<b>5. MISCELLANEOUS INCOME</b>		<b>TOTAL EXPENSES</b>	<b>\$9,133.40</b>
	<b>\$0</b>		
<b>6. MEMBERSHIP</b>			
a. Associate	\$0		
b. Individual	\$120		
c. Individual collected at the meeting	\$1,660		
d. Institutional	\$1,200		
e. Life, Kannan, Four \$125 Payments through PayPal	\$0		
	<b>\$2,980</b>		
<b>7. MEETING INCOME</b>			
a. PayPal Transfer	\$0		
<b>TOTAL INCOME</b>	<b>\$12,910.00</b>		
<b>EXPENSES</b>			
<b>1. STUDENT AWARDS</b>	<b>\$1,700.00</b>		
<b>2. AWARDS (Organizations)</b>			
a. Junior Science and Humanities Sym.	\$400		
b. Arkansas State Science Fair	\$400		
c. Arkansas Junior Academy of Science	\$400		
d. Arkansas Science Talent Search	\$150		
	<b>\$1,350.00</b>		
<b>3. UNDERGRADUATE RESEARCH AWARDS</b>			
a. Dr. Dr. Gifford, UCA	\$898.80		
b. Dr. Khan , ATU	\$1,000		
c. Dr. McDonald, UCA	\$982.80		
	<b>\$2,881.60</b>		
<b>4. JOURNAL</b>			
a. Volume 71 Printing Cost	\$2,839.45		
b. Journal Mailing Cost	\$85.59		
c. Journal Return Postage Cost	\$3.17		
	<b>\$2,928.21</b>		
<b>5. MISCELLANOUS EXPENSES</b>			
1. Affiliation to AAAS Dues (Aug. 7, 2018)	\$150.00		
2. Reimbursed Collis for Plaques	\$93.29		
3. Reimbursed Mostafa for His Accountant's Post-Card	\$20		
3. Awards Mailing Cost of Journals to Collis	\$10.30		
	<b>\$273.59</b>		

**Arkansas Academy of Science Business Meeting Report****ARKANSAS ACADEMY OF SCIENCE  
COST OF JOURNAL**

VOLUME	COPIES	PAGES	PRINTER CHARGE	TOT. VOL. COST	COST/ COPY	COST/ PAGE
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
58 (2004)	210	144	\$7,875.76	\$9,175.76	\$43.99	\$63.72
59 (2005)	215	226	\$16,239.04	\$17,835.84	\$82.96	\$78.92
60 (2006)	220	204	\$11,348.06	\$12,934.30	\$58.79	\$63.40
61 (2007)	195	150	\$8,196.84	\$9,914.69	\$50.84	\$66.10
62 (2008)	220	166	\$2,865.00	\$2,967.49	\$13.49	\$17.88
63 (2009)	213	206	\$3,144.08	\$3,144.08	\$14.76	\$15.26
64 (2010)	232	158	\$2,713.54	\$2,764.30	\$11.91	\$17.50
65 (2011)	200	194	\$2,915.12	\$2,963.03	\$14.82	\$15.27
66 (2012)	200	216	\$3,087.91	\$3,180.29	\$15.90	\$14.72
67 (2013)	200	238	\$3,311.42	\$3,396.32	\$16.98	\$14.27
68 (2014)	180	192	\$2,812.75	\$2,944.08	\$16.36	\$15.33
69 (2015)	180	170	\$2,622.87	\$2,622.87	\$14.57	\$15.43
70 (2016)	180	307	\$3,179.53	\$3,320.76	\$18.45	\$10.82
71 (2017)	180	262	\$2,839.45	\$2,839.45	\$15.77	\$10.83

The Total Volume Cost equals the printer's charge plus the other miscellaneous charges (e.g. Mailing Costs).

- 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.



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APPENDIX A

AWARD WINNERS FROM THE 102<sup>nd</sup> ANNIVERSARY AKANSAS ACADEMY OF SCIENCE  
(awardees are underlined)

**UNDERGRADUATE ORAL PRESENTATION**

**AWARDS: Biology**

*1<sup>st</sup> Place (Tie)*

**Culture-independent analysis of Hot Springs National Park thermophiles** by Taylor Stone; Richard C. Murray; Matthew D. Moran. Hendrix College

**Effects of recreational boat noise on avoidance and feeding behaviors in an important freshwater stream fish** by Claire Turkal; Trystin F. Anderson; Maureen R. McClung. Hendrix College

**UNDERGRADUATE POSTER PRESENTATION**

**AWARDS: Biology**

*1<sup>st</sup> Place*

**Genetic engineering of the Mad locus using CRISPR/Cas-9 and Phi-C31 recombination** by Jeremy Brown. Southern Arkansas University

**GRADUATE ORAL PRESENTATION**

**AWARDS: Biology**

*1<sup>st</sup> Place*

**Distribution Records of the Chestnut Lamprey in Arkansas** by Jeremiah Salinger; Ron Johnson. University of Arkansas at Pine Bluff

**GRADUATE POSTER PRESENTATION**

**AWARDS: Biology**

*1<sup>st</sup> Place*

**Molecular Mechanisms Underlying the Higher Biomass and Abiotic Stress Tolerance Phenotype of Arabidopsis MIOX Overexpressers** by Nirman Nepal; Jessica P. Yactayo Chang; Lucia M. Acosta-Gamboa; Karina Medina-Jimenez; Mario A. Arteaga-Vasquez; Argelia Lorence. Arkansas State University

*2<sup>nd</sup> Place*

**Investigation of the function of a putative cysteine synthase homolog in Mycobacterium smegmatis using unmarked gene deletion mutation** by Saroj Mahato; Ravi D. Barabote. University of Arkansas

**UNDERGRADUATE ORAL PRESENTATION**

**AWARDS: Ecology**

*1<sup>st</sup> Place*

**Valuation of ecosystem services of the Arctic National Wildlife Refuge** by Margaret Young; Adam C. Turner; Matthew D. Moran; Maureen R. McClung. Hendrix College

*2<sup>nd</sup> Place*

**Aerobic Pushups: Cutaneous Ventilation in Overwintering Smooth Softshell Turtles, Apalone mutica** by Caleb O'Neal; Michael V. Plummer. Harding University

**UNDERGRADUATE ORAL PRESENTATION**

**AWARDS: Chemistry & Geosciences**

*1<sup>st</sup> Place (Tie)*

**Development of a Novel Method for Purification of Recombinant Proteins** by Amberly Vaughan; Musaab Al-Ameer; T.K.S. Kumar. University of Arkansas

**Quantification of Brominated Vegetable Oil in Beverages by LC-MS** by Katie Farmer. Harding University

**UNDERGRADUATE POSTER PRESENTATION**

**AWARDS: Chemistry & Geosciences**

*1<sup>st</sup> Place*

**Novel Peptoids as Antimicrobial Agents** by Eliza Hanson; Francis Umesiri. John Brown University

*2<sup>nd</sup> Place*

**Extraction and Quantitation of Heterocyclic Aromatic Amines from Cooked Bacon using Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry** by Emily Joy Seminara; Lora J. Rogers; Susan Kadlubar; Howard Hendrickson. Hendrix College

**GRADUATE ORAL PRESENTATION**

**AWARDS: Chemistry, Geosciences & Engineering**

*1<sup>st</sup> Place (Tie)*

**Phenomics Approaches to Elucidate the Contribution of the Four Ascorbate Pathways to Abiotic Stress Tolerance in Arabidopsis** by Lucia Acosta-Gamboa; Nirman Nepal; Zachary C. Campbell; Shannon Cunningham; Karina Medina-Jimenez; Argelia Lorence. Arkansas State University

**Arkansas Academy of Science Business Meeting Report**

**Variable Frequency Drives, Providing Energy Efficiency and Enhanced Crop Production in Agriculture While Improving Water Management Processes** by Robert Straitt; Rajesh Sharma; Paul Mixon; Steve Green; Andrzej Rucinski; Nadya Reingand; Christophe Paoli; Dwight Ellis. Arkansas State University

**GRADUATE POSTER PRESENTATION**

**AWARDS: Chemistry**

*1<sup>st</sup> Place*

**Identification of a novel glucan crosslink to feruloylated arabinoxylan in rice bran fiber** by Kan Takahashi; Brett Savary. Arkansas State University

**UNDERGRADUATE ORAL PRESENTATION**

**AWARDS: Engineering, Math, Physics & Computer Science**

*1<sup>st</sup> Place*

**An Interacting Model between Dark Energy and Dark Matter** by Yosuke Kitakaze; Jesse Griffiths. Arkansas Tech University

**UNDERGRADUATE POSTER PRESENTATION**

**AWARDS: Engineering & Physics**

*1<sup>st</sup> Place*

**Stratospheric Ballooning RGB System for LiDAR Measurements** by Patrick Tribbett; Ross Carroll. Arkansas State University

*2<sup>nd</sup> Place*

**Rutherford Backscattering Spectrometry** by Paul Niyonkuru. University of Central Arkansas

**GRADUATE POSTER PRESENTATION**

**AWARDS: Engineering**

*1<sup>st</sup> Place*

**Anomalous electrostatic nature of charged particles: An approach towards stable equilibrium in inverted systems** by Tamal Sarkar. Arkansas State University

**APPENDIX B  
RESOLUTIONS**

**Arkansas Academy of Science  
102<sup>nd</sup> Annual Meeting, 2018 Resolutions**

Be it resolved that we, the membership of the Arkansas Academy of Science (AAS) offer our sincere appreciation to Arkansas State University for hosting the 102nd annual meeting of the Academy. We thank the local arrangements committee: Rajesh Sharma (Chair), Andrew Sustich, Emily Devereux, Ross Carroll, Kwangkook (David) Jeong, Zahid Hossian, John Hershberger, Brook Fluker, and Tanya McKay who supported the program and meeting arrangements listed in the AAS proceedings.

We sincerely thank Arkansas State University for providing its facilities and service during the meeting and Sodexo for the catering service.

We especially thank our keynote speaker, Dr. Travis Marsico, for his informative talk.

The Academy recognizes the important role of our session chairs: Brian Wagner (Arkansas Game & Fish Commission), Stan Trauth (A-State), John Hershberger (A-State), Dennis Province (HU), Matthew Young (ATU), Ronald Johnson (A-State), Henry North (HU), Ragupathy Kannon (UAFS), Hamed Shojaei (ATU),

Maureen McClung (HC), Antoinette Odendall (SAU), Zahid Hossian (A-State), and Matt Moran (HC).

Even greater appreciation and sincere gratitude is extended to our dedicated judges for the student presentations including David Bowles (National Park Service), Ryan Stork (HU), Mikolaj Sulkowski (SAU), Mary Stewart (UAM), Steve Cooper (HC), Brook Fluker (A-State), Susanne Wache (SACC), Douglas Barron (ATU), Cynthia Jacobs (ATU), Frank Hardcastle (ATU), Ross Carroll (A-State), Andres Caro (HU), John Hershberger (A-State), and Jessica Young (ATU).

We congratulate our student researchers, scientists, and engineers who presented papers and posters whose efforts contribute directly to the future success of the Academy and the improvement of advancement of science in Arkansas.

The Academy recognizes its leadership and offers its thanks to this year's set of executive officers including Panneer Selvam (President), Franklin Hardcastle (President Elect), Ed Wilson (Past

## Arkansas Academy of Science Business Meeting Report

President), Stephen Addison (Vice President), Mostafa Hemmati (Treasurer and Journal Editor-in-Chief), Ivan Still (Journal Managing Editor), Panneer Selvam (Newsletter Editor), Rami Alroobi (Webmaster), Kimberly Smith (Historian), and Collis Geren

(Secretary).

Respectfully submitted on this 7th day of April, 2018. Resolutions Committee: Panneer Selvam (President), Stephen Addison (Vice President), and Mostafa Hemmati (Treasurer).

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Matthew	Young	Arkansas Tech University

**STUDENT MEMBERS**

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Saber	Nazim	Arkansas State University
Gray	Orman	University of Arkansas-Fayetteville
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Kan	Takahashi	Arkansas State University
Dustin	Thomas	Arkansas State University
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Amanda B.	Trusty	Arkansas State University
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Edmond	Wilson	Harding University

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Jeremy	Brown	Southern Arkansas University
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Hilary	Canada	Arkansas State University
Megan	Cassingham	Hendrix College
Kylie A.	Cleavenger	University of Arkansas-Fayetteville
Ryan A.	Coleman	University of Arkansas-Fayetteville
Samantha	Dix	Arkansas Tech University
Andrew	Feltmann	University of Central Arkansas
Courtney D.	Hatch	Hendrix College
Nimmy	Issac	Harding University
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Kaushik	Luthra	University of Arkansas-Fayetteville
Kaylee	McAdoo	University of Arkansas-Fayetteville
Saroj Kumar	Mahato	University of Arkansas-Fayetteville
Emma	Martin	Arkansas State University
Kelsey	Martin	Harding University
Brittany	McCall	Arkansas State University