

2016

Business meeting report (Secretary's and Treasurer's Report)

Academy Editors

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Business meeting report

**Secretary's Report
MINUTES OF THE 100th MEETING**

ARKANSAS ACADEMY OF SCIENCE
SPRING 2016 BUSINESS MEETING MINUTES

April 2, 2016 – 11:00 am

BELL 273, University of Arkansas at Fayetteville

1. The meeting was called to order by President Ann Willyard.

2. Local Arrangements Committee: Paneer Selvam

The conference arrangements came out well. Discussed about the Chief Guest, proceedings and donations from the Provost, Vice Provost and Deans of Engineering, Science, Agriculture, Graduate School and Honors College. Each of the office gave \$1000. The number of registrants went over 300 and the number of abstracts went over 240.

3. Secretary's Report: Jeff Robertson, Salomon Itza

Minutes from the Executive Committee Meeting of December 5, 2015 minutes were reviewed and approved. Business Meeting of April 11, 2015 was reviewed and approved.

4. Treasurer's Report: Mostafa Hemmati

An accounting of the AAS for 2016 was presented and discussed by the membership. The report was reviewed by the Auditing Committee (Colis and Lois Geren). The auditing committee applauds the work of Treasurer Mostafa Hemmati. The report was clean, all quantities add up. (see AAS financial statement in appendix.)

5. Historian's Report: Collis Geren

Since the historian's report was distributed electronically to all meeting registrants, no formal report was made. (Please see the preface to this volume for the historic founding and early history of the Academy and the Journal).

6. Journal (JAAS #69) Report:

- Editor-In-Chief Mostafa Hemmati

During the spring 2015 semester, 27 manuscripts were submitted for consideration for publication in volume 69 of the Journal of the Arkansas Academy of Science (JAAS). Soon after receiving the manuscripts, all manuscripts were sent to reviewers and two Associate Editors. The reviewers sent all manuscripts and their comments back before the end of July 2015.

Reviewers' comments were sent to the authors between July 15, 2015, and July 30, 2015. That process was completed by July 30, 2015. The authors were asked to respond to the reviewers' comments and return their manuscript back to Managing Editor, Dr. Still, by August 31, 2015. That allowed more than a month of time for the authors to respond to the reviewers' comments. In the same letter, the authors were also asked to mail a check for their page charges. August 31, 2015, was also the deadline for receipt of the payment of the page charges; we had to allow longer time for this volume of the Journal.

Five manuscripts required major revisions; however, the remaining manuscripts needed minor revisions. Therefore, volume 69 of the Journal will include 27 manuscripts. In the process of manuscript submission, no manuscripts were lost.

Two Associate Editors, Dr. Collis Geren and Dr. Frank Hardcastle, helped considerably with locating possible reviewers for the manuscripts or serving as reviewer for more than one manuscript. I am grateful for both 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, 2015. Printing of the Journal was completed by March 2, 2016. I have used Russellville Printing Company for printing of the Journal in the past and I used the same Company this year again.

Managing Editor Ivan Still

There were 27 manuscripts submitted for consideration of publication in volume 69 (2015) of the JAAS.

By the beginning of May these manuscripts were checked for style, grammar, format, etc, to ensure compliance with the "Instructions to Authors". Abstracts were sent to potential reviewers mid to late May. Dr. Hemmati handled Physical Science papers and recruited Drs. Collis Geren, and Dr. Frank Hardcastle to serve as Associate Editors, while Biological Science manuscripts were handled by Dr. Still. All manuscripts were sent out electronically for review by the beginning of June.

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These were returned to the Managing Editor at the end of June/middle of July.

Most authors were contacted by e-mail by the middle of July 2015 and informed if their paper was accepted with the need for minor or major revision or whether their paper was rejected. Most manuscripts required minor revision while 5 required major revisions. All authors were asked to return their revisions to the Managing Editor electronically by August 31, with the page charges being submitted to Dr. Hemmati, Editor-in-Chief.

The total number of manuscripts that will be published this year is 27 (down from 31 in the previous year), of which 17 were Articles, 10 were in General Note format. The Journal was completed at the end of December when the Membership list and the final Treasurer's report was added. The Volume 69 was 170 pages long (including cover pages) and was sent for printing in January 2016.

I would like to thank the reviewers and Assistant/Associate Editors for their help in the preparation of volume 69, and finally the corresponding authors of submitted manuscripts and the reviewers for their efforts in maintaining the quality of the journal.

Revision of Journal policies to maintain membership of the Directory of Open Access Journals:

Beth Juhl contacted me at the end of 2015 regarding our continued registration with the Directory of Open Access Journals. With the predatory practice of so-called Open Access Journals, the DOAJ tightened up, and required additional criteria for continued inclusion in the Directory. The following items were addressed as a requirement and where necessary added to the Journal Web site: 1) update to Journal's aims and scope; 2) a set editorial board of five members (already provisioned in the AAS Constitution), with contact information included; 3) the author guidelines; 4) clear Journal policies to maintain quality of the peer review process, academic honesty and integrity, including references to COPE's guidelines (available at <http://publicationethics.org/resources/guidelines>); and 5) copyright and Open Access statement. Full updates can be viewed at the Journal Website <http://www.arkansasacademyofscience.org/aasjournal.html>

Matters arising from assessment of abstracting of the Journal.

Previous journal issues have included a statement regarding where the journal is abstracted. This was inherited from when Dr. Hemmati and I took over the management of the Journal. Several of these services have come under Thomson Reuters and will require reapplication, and possible monies, while some may no longer be appropriate (Anthropology, for instance, as no papers on this subject have been submitted for a while), and one no longer exists (1985 last issue!). Thus, I have removed this statement for the interim until I am able to investigate this matter further.

7. Webmaster: Salomon Itza

Salomon reported that he is leaving Arkansas. He will be missed.

8. Newsletter: Panneer Selvam

The newsletter for January was issued and publicized through email. The committee recommended to have a simple publication for the fall.

9. Committee Reports:

Nominations Committee: Mostafa Hemmati

Ed Wilson inherited the presidency of the Academy, with Panneer Selvam as President-elect, Ann Willyard as Past-President, and Frank Hardcastle nominated as Vice President. Dr. Collis Geren was nominated to the position of Secretary, Kim Smith the post of Historian and Rami Alroobi, Webmaster. A new position in charge of Undergraduate Research Grants will be filled by Jess Kelly.

10. Business Old and New:

Professor Stephen Addison proposed the University of Central Arkansas as the site of the 2017 meeting (101st)

Arkansas State University has volunteered to host the 102nd meeting in 2018.

AAS Undergraduate Research Awards (\$500) were given to support undergraduate research. Recipients of the 2016 awards were Amanda Brooks, Anna Sharabura and James Allen Jackson.

Student Awards were presented at the 100th AAS meeting and are detailed in Appendix A.

Business meeting report**11. Motions and Action Items:**

Approval of the 2016-17 AAS budget for up to \$7,000 yearly, outside of journal publication costs, which includes student presentation awards, student research awards, and funding for affiliate organizations was sought. Moved by Hemmati and Seconded by Still. It was approved.

Ed Wilson was installed as President, with Paneer Selvam President-Elect, Frank Hardcastle as Vice President and Ann Willyard becomes Past President. All other nominations were accepted.

Meeting was adjourned at 12:03 P.M.

Draft submitted by Salomon Itza, to Dr. Geren, acting AAS Secretary, May 18 2016

Treasurer's Report
ARKANSAS ACADEMY OF SCIENCE
2016 FINANCIAL STATEMENT
December 13, 2016

Balance – November 4, 2016 **\$127,944.53**

Balance – December 1, 2015 **\$110,045.33**

Net Gain **\$17,899.20**

DISTRIBUTION OF FUNDS

Checking Account - \$24,888.34
Arvest Bank, Russellville

PayPal Account available Funds \$697.75
on December 13, 2016

Certificate of Deposit \$51,179.22
Includes Phoebe and George Harp Endowment
Arvest Bank, Russellville

Certificate of Deposit \$51,179.22
Arvest Bank, Russellville

Combined interest from Arvest Bank alone since December 01-
December 13, 2016: \$134.72+ \$134.72 = \$269.44

TOTAL **\$127,944.53**

INCOME:

1. Transfer from CD to Checking **\$50,000.00**

2. GIFTS RECEIVED

a. Ouachita National Forest - Sponsorship \$0
b. Contribution, Collis Geren \$250
c. Contribution, Geren (\$250) +Returned Check \$25 \$275

\$525

3. INTEREST (Interest Earned Year to Date)

a. Checking Account, Arvest Bank 1290 \$0
b. CD1 (Arvest Bank) 1357 \$134.72
c. CD2 (Arvest Bank) 1358 \$134.72

All interest was added to the CDs **\$269.44**

4. JOURNAL

a. Page Charges \$13,300
b. One Copy of Vol. 69 \$50
c. Suscriptions, University of Arkansas \$900
d. One Copy of Vol. 69 \$50
e. One Copy of Vol. 70, IBSCO \$50

\$14,350

5. MISCELLANEOUS INCOME \$0

6. MEMBERSHIP

a. Associate \$15
b. Individuals \$370
c. Membership Fees from Meeting \$930
d. Other Dues- From Meeting \$35
e. Institutional (UAMS, \$100) + UAF\$100+Lyon\$100) \$300
f. Life (Bullock, Secd-\$125; Kelly, Secd. \$125; Selvam, \$500; Liner \$500); Collis had recorded \$625 as Well \$1,250
g. Sponsoring \$45
h. Sustaining \$35

\$2,980

7. MEETING INCOME

a. Student Registration and Fees \$3,480
b. Faculty Registration and Fees \$3,000
c. Additional Meeting Income-Last Check \$1,683.66

\$8,163.66

TOTAL INCOME **\$26,018.66**

EXPENSES

1. STUDENT AWARDS \$4,025

2. AWARDS (Organizations)

a. Junior Science and Humanities Sym. \$400
b. Arkansas State Science Fair \$400
c. Arkansas Junior Academy of Science \$250
d. Arkansas Science Talent Search \$150

\$1,200

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3. UNDERGRADUATE RESEARCH AWARDS

a. Dr. MacDonald, Hendrix	\$500
b. Ms. Dalton, ATU	\$500
c. Dr. Kelly, Ouachita	\$500

\$1,500

4. JOURNAL

a. Volume 69 Printing Cost	\$2,622.87
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\$2,622.87

5. MISCELLANOUS EXPENSES

1. Extra Registration Fee Refund, Dr. Willyard	\$40
2. Extra Registration Refund- Nasaya	\$40
3. EXCOM Lunch, Hemmati	\$54.17
4. Journal Mailing Cost	\$68.46
5. Student Presentation Award's Mailing Cost	\$3.77
6. Membership Fee Refund	\$30
7. Website Registration	\$36
8. Life Membership Refund	\$500

\$772.40

6. TRANSFER TO CD from Checking \$50,000

7. MEETING EXPENSES \$0.00

TOTAL EXPENSES \$10,120.27

Business meeting report**ARKANSAS ACADEMY OF SCIENCE
COST OF JOURNAL**

VOLUME	COPIES	PAGES	PRINTER CHARGE	TOT. VOL. COST	COST/ COPY	COST/ PAGE
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
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

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.

APPENDIX A

AWARD WINNERS FROM THE 100TH ANNIVERSARY AKANSAS ACADEMY OF SCIENCE (awardees are underlined)

UNDERGRADUATE ORAL PRESENTATION

AWARDS: Chemistry

1st Place

Cholesterol Influence on Arginine-Containing Transmembrane Peptides by Jordana K. Thibado; Ashley Martfeld; Denise Greathouse; Roger Koeppel. University of Arkansas, Fayetteville

2nd Place

Small Molecule Inhibitors of System xC by John Kreun; Allen Snider; Mariusz P. Gajewski. Arkansas Tech University

3rd Place

Length – Valence Relationship for Carbon – Nitrogen Chemical Bonds by Connor Harris; Franklin D. Hardcastle. Arkansas Tech University

GRADUATE ORAL PRESENTATION AWARDS:

Chemistry

1st Place

Varied Approaches to the Ionization Behavior of Specific Glu Residues That Face the Lipids in Transmembrane Helices by Venkatesan Rajagopalan; Denise V. Greathouse; Roger E. Koeppel II. University of Arkansas, Fayetteville

2nd Place

Evidence for a New Phase of Liquid Buried in Experimental Surface Tension Measurements of Supercooled Water by Ryan Rogers; Kai-Yang Leong; Feng Wang. University of Arkansas Fayetteville

3rd Place

Stereospecific Reduction of R- and S- Warfarin by Human Hepatic Cytosolic Reductase by D. A. Barnette¹; D. L. Pouncey²; R Nshimiyimana²; L. P. Desrochers²; D.K. Hammon²; T. E. Goodwin²; G. P. Miller¹. University of Arkansas for Medical Sciences¹; Hendrix College²

UNDERGRADUATE POSTER PRESENTATION

AWARDS: Chemistry

1st Place

Determining Diffusion Coefficients in Bulk Solution and Through Membranes Using Electrochemical Time of Diffusion (ETOD) by Madelaine Meier; Jon Moldenhauer; David Paul. University of Arkansas, Fayetteville

2nd Place

Helix Fraying May Stabilize Transmembrane Alpha Helices by Armin Mortazavi; Venkatesan Rajagopalan; Roger E. Koeppel II. University of Arkansas, Fayetteville

3rd Place

Determination of Fatty Acid Concentrations in Algae by Donnell White; Beth Justice; Drake Palazzi. University of Arkansas at Monticello

GRADUATE POSTER PRESENTATION

AWARDS: Chemistry

1st Place

Engineering the Structure of Fibroblast Growth Factor through Site Directed Mutagenesis for Increased Protein Stability by Julie Davis; Srinivas Jayanthi; T.K.S. Kumar. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION

AWARDS: Molecular and Cellular Biology

1st Place

Characterization of the Thioredoxin System in *Methanosarcina acetivorans* Reveals Complexity of the System in Methanogens by Addison C. McCarver; Faith H. Lessner; Daniel J. Lessner. University of Arkansas, Fayetteville

2nd Place

Simplifying Gene Stacking in Plants using Site Specific Recombinases and Nucleases by Bhuvan Pathak; Jamie Underwood, Soumen Nandy; Shan Zhao; Vibha Srivastava. University of Arkansas, Fayetteville

3rd Place

Precision Medicine: A Case for Exemestane Therapy by Bryana J. Gregory; Joshua D. Simpson; Nour M. Hussein Harding University College of Pharmacy

UNDERGRADUATE POSTER PRESENTATION

AWARDS: Molecular and Cellular Biology

1st Place

Identification of the Gene Defective in J56, an *Arabidopsis* Auxin-conjugate Response Mutant by Ahmed Stivers¹; Bethany Zolman¹; Rebekah Rampey². Harding University¹; University of Missouri-St. Louis²

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2nd Place

Identification of Important Residues in *Arabidopsis* IBR3 Using Site-directed Mutagenesis and Mutant Phenotype Complementation assays by Amy Scott¹; Rebekah Rampey¹; Bethany Zolman². Harding University¹; University of Missouri- St. Louis²

3rd Place

Fatty Acid Metabolism Controlled by NHR-80 and NHR-49 is Necessary for *Caenorhabditis elegans* to Survive in Severe Hypoxia by Quinton Anderson; Ben Saunders; Jo Goy. Harding University

GRADUATE ORAL PRESENTATION AWARDS:
Molecular and Cellular Biology

1st Place

GTP Hydrolysis Is Not Required by Chloroplast Signal Recognition Particle and its Receptor for Post Translational Targeting and Insertion of Integral Thylakoid Membrane Proteins by Priyanka Sharma; Ralph L. Henry; Robyn L. Goforth; Alicia D. Kight. University of Arkansas, Fayetteville

2nd Place

Mitochondrial CYP2E1 Drives Butadiene-induced Mitochondrial Dysfunction by Jessica H. Hartman¹; Andres A. Caro²; Gunnar Boysen¹; Grover P. Miller¹. University of Arkansas for Medical Sciences¹; Hendrix College²

3rd Place

Methanogens as Ideal Candidates for Life on Mars: Tolerance to Pressure, Temperature and Clays by Rebecca L. Mickol¹; Yuta A. Takagi²; Tim A. Kral¹. University of Arkansas¹; Oberlin College²

UNDERGRADUATE ORAL PRESENTATION AWARDS:
Molecular and Cellular Biology

1st Place

The Effects of Type of Information and Type of Exposure on Attitudes about Mental Illness by Jessica Bonumwezi; Kelly Brice. Hendrix College

2nd Place

Growth of Methanogens in the Presence of Perchlorate Salts: A Study for Possible Life on Mars by John Cale; Rebecca L. Mickol; Tim A. Kral. University of Arkansas, Fayetteville

3rd Place

Phenotypic Variation of a Segregating Blackberry Population for Molecular Marker Development by Loren M. Anthony; John R. Clark; Daniela Segantini. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION**AWARDS: Field Biology and Ecology***1st Place*

Population Dynamics of Chelonians in an Urban Lake in Jonesboro, Craighead County, Arkansas by J.D. Konvalina; C.S. Thigpen; S.E. Trauth. Arkansas State University

2nd Place

Vegetation Diversity in Natural and Restored Forested Wetland Sites in Southeast Arkansas by Chris Sheldon; Robert L. Ficklin; Karen Fawley. University of Arkansas at Monticello

UNDERGRADUATE POSTER PRESENTATION**AWARDS: Field Biology and Ecology***1st Place*

Distribution and Abundance of Introduced Seal Salamanders (*Desmognathus monticola*) in Northwest Arkansas, USA by Clint Bush. University of Arkansas, Fayetteville

2nd Place

An Ecological Study of the Burrowing and Feeding Habits of *Coronis scolopendra* Latreille (Stomatopoda: Nannosquillidae) by Addison Ochs. Southern Arkansas University

GRADUATE ORAL PRESENTATION AWARDS:**Field Biology and Ecology***1st Place*

Relative Wildlife Community Metrics within Arkansas State Parks by Bennett Grooms¹; Rachael Urbanek². Arkansas Tech University¹; University of North Carolina Wilmington²

2nd Place

Allelopathic Influence of Eucalyptus on Three Common Kenyan Farming Crops by Brandy Garrett Kluthe. University of Arkansas, Fayetteville

UNDERGRADUATE ORAL PRESENTATION**AWARDS: Field Biology and Ecology***1st Place*

Indirect Effects of Leaf-cutter Ants on the Litter Arthropod Community in a Tropical Rainforest by Rachel Wells¹; Serena Murphy²; Matthew Moran¹. Hendrix College¹; University of Georgia, Costa Rica²

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2nd Place

The Effects of Shade on Greenhouse-grown Primocane Fruiting Blackberries by Olivia Caillouet; Curt Rom; Jason McAfee. University of Arkansas, Fayetteville

3rd Place

Impacts of Shale Gas Development on Breeding Birds in the Eastern United States by Kevin J. Krajcir; Annie Meek; Matthew D. Moran; Maureen R. McClung. Hendrix College

UNDERGRADUATE ORAL PRESENTATION

AWARDS: Botany

1st Place

Phylogeography of Jeffrey Pine in the Klamath Mountains by Julia Lefler; Ann Willyard. Hendrix College

2nd Place

Mitochondrial Lineages of *Pinus ponderosa* s.l. in the USA and Related Species in Mexico and Central America by Hassan Hussein Karemera; Ann Willyard. Hendrix College

UNDERGRADUATE ORAL PRESENTATION

AWARDS: Physics

1st Place

The Effect of Space Radiation and Microgravity on Chromosome Aberrations in Human Endothelial Cells by Cullen Shaffer¹; Abdel Bachri¹; Rupak Pathak². Southern Arkansas University¹; University of Arkansas for Medical Sciences²

2nd Place

Electron Shock Waves with a Large Current behind the Shock Front by Hunter Newberry; Mostafa Hemmati. Arkansas Tech University

GRADUATE ORAL PRESENTATION AWARDS:

Physics

1st Place

Two-dimensional Disorder in Black Phosphorus and Monochalcogenide Monolayers at Finite Temperature by Mehrshad Mehboudi¹; Salvador Barraza-Lopez¹; Alex M. Dorio¹; Hugh O. H. Churchill¹; Alejandro A. Pacheco-Sanjuan²; Edmund O. Harriss¹; Pradeep Kumar¹. University of Arkansas¹; Universidad del Norte²

2nd Place

Universal Energetic Coupling in Complex Antiferroelectric and Incommensurate Perovskites by Kinnary Patel¹; Sergey Prosandeev^{1,2}; Yurong Yang¹; Bin Xu¹; Jorge Iñiguez³; L. Bellaiche¹. University of Arkansas¹; Southern Federal University, Russia²; Luxembourg Institute of Science and Technology³

3rd Place

Double Groups in Molecular Physics by Bradley Klee. University of Arkansas, Fayetteville

UNDERGRADUATE POSTER PRESENTATION

AWARDS: Physics

1st Place

Nanoparticle Size and Shape Characterization with Solid State Nanopores by Santoshi Nandivada; Jiali Li; Mourad Benamara. University of Arkansas, Fayetteville.

2nd Place

Detect Binding Sites and Efficiency of Binding of RNAP Holoenzyme on λ DNA Attached to a Probe Tip with Solid State Nanopores by Harpreet Kaur; Santoshi Nandivada; Mitu Chandra Acharjee; Changbae Hyun; Min Xiao; David McNabb; Jiali L. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION

AWARDS: Physics

1st Place

Changes in Elasticity of Rat Bones Exposed to Simulated Microgravity and Radiation by Hayley Heacox¹; Lawrence M. Benzmilller¹; Rahul Mehta¹; Max Dobretsov²; Parimal Chowdhury². University of Central Arkansas¹; University of Arkansas for Medical Sciences²

2nd Place

SIMION Model of an Electrostatic Positron Storage Ring by Nicole Nichiniello; Jared Gavin. University of Arkansas at Monticello

3rd Place

Measuring Nonlinear Parameters of Graphene Materials Using Z-Scan Technique by Thekayat Alabdulaa; Gregory Salamo. University of Arkansas, Fayetteville

Arkansas Academy of Science Meeting report**UNDERGRADUATE ORAL PRESENTATION****AWARDS: Computing Science***1st Place*

A Support Vector Machine Based Model for Predicting Heparin-binding Proteins using XB patterns as Features by Joseph Sirrianni; Wing Ning Li; Thallapuram Suresh Kumar. University of Arkansas, Fayetteville

UNDERGRADUATE POSTER PRESENTATION**AWARDS: Computing Science***1st Place*

Rules for Differentiating Between Non-Isomorphic Graphlets by John Calvin Alumbaugh; Dale R. Thompson. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION**AWARDS: Computing Science***1st Place*

PrivacyCamera: Cooperative Privacy-Aware Photographing with Mobile Phones by Ang Li¹; Qinghua Li¹; Wei Gao². University of Arkansas¹; University of Tennessee²

2nd Place

The Effects of Denial-of-Service Attacks on Secure Time-Critical Communications in the Smart Grid by Fengli Zhang; Qinghua Li; Chase Ross. University of Arkansas, Fayetteville

3rd Place

IPv6 Security Performance Analysis by Adrian Ordorica; Dale R. Thompson. University of Arkansas, Fayetteville

UNDERGRADUATE ORAL PRESENTATION**AWARDS: Engineering***1st Place*

Electrospun Poly-Ethylene Oxide Nanofibers by Hope Schneider; Daniel Bullock; Jim Steuber. Arkansas Tech University

2nd Place

Android Control of Science Instruments by Daniel Grant; Maria Medrano; Edmond Wilson. Harding University

3rd Place

Persistent and Controllable Weather Balloons as High Altitude Test Vehicle by Maxwell Martin; Adam Huang. University of Arkansas Fayetteville

GRADUATE ORAL PRESENTATION AWARDS:**Engineering***1st Place*

Engineering Biphasic Janus-type Polymer-Protein Nanofibers via Centrifugal Jet Spinning by Prashanth Ravishankar; Alex Khang; Kartik Balachandran. University of Arkansas, Fayetteville

2nd Place

Effect of Quinhydrone-Methanol Passivation on Hydrogenated and Standard Boron Emitters by Matthew Young; Hameed Naseem. University of Arkansas, Fayetteville

3rd Place

Environmental Sustainability of Distribution-retail Networks in the United States by Jasmina Burek; Darin Nutter. University of Arkansas, Fayetteville

UNDERGRADUATE POSTER PRESENTATION**AWARDS: Engineering***1st Place*

Properties of GaN/SiC Heterostructures for Harsh Environment Power Devices by Stephanie Sandoval; Chen Li; Morgan Ware; Zhong Chen. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION**AWARDS: Engineering***1st Place*

Systematic Study of Si-based Ge/Ge_{0.9}Sn_{0.1}/Ge Photodiodes with 2.6 μm Detector Cutoff by Thach Pham. University of Arkansas, Fayetteville

2nd Place

Optical Properties Study of Ge_{1-x}Sn_x Alloys by Spectroscopic Ellipsometry by Huong Tran. University of Arkansas, Fayetteville

3rd Place

Temperature Dependent Study of GeSn Light-emitting Diodes on Si for Mid-infrared Applications by Yiyin Zhou. University of Arkansas, Fayetteville

UNDERGRADUATE ORAL PRESENTATION**AWARDS: Geoscience**

Lower Mississippian Chert Development, Southern Midcontinent Region by Julie M. Cains. University of Arkansas, Fayetteville

Arkansas Academy of Science Meeting report

GRADUATE ORAL PRESENTATION AWARDS:

Geoscience

1st Place

Sourcing Diagenetic and Mineralizing Fluids of Mississippi Valley-Type Ores along the Cincinnati Arch by William Travis Garmon; Adriana Potra; Andrew H. Wulff. University of Arkansas, Fayetteville

2nd Place

Comparison of the Elemental Geochemistry of the Boone Chert and the Arkansas Novaculite by John Philbrick. University of Arkansas, Fayetteville

3rd Place

GS-Carbon Sequestration at Pea Ridge National Military Park in NW Arkansas from a Terrestrial/Biological Perspective by Dorine Reed Bower. University of Arkansas, Fayetteville

GRADUATE POSTER PRESENTATION

AWARDS: Geoscience

Floodplain Soils—A Potential Source of Phosphorus to the Illinois River by Megan Lord; Brian Haggard. University of Arkansas, Fayetteville

**APPENDIX B
RESOLUTIONS**

**Arkansas Academy of Science
100th Annual Meeting, 2016 Resolutions**

Be it resolved that we, the membership of the Arkansas Academy of Science (AAS) offer our sincere appreciation to University of Arkansas for hosting the 100th annual meeting of the Academy. We thank the local arrangements committee: R. Panneer Selvam (Chair), Collis Geren and Jim Rankin (Co-Chair) and the Provost and Deans who supported the awards and volunteering Faculties listed in the AAS proceedings.

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

We especially thank our keynote speaker, Chancellor Joseph Steinmetz for his inspiring talk.

The Academy recognizes the important role of our session chairs: David Andrews (UAF), Abdel Bachri (SAU), Doug Barron (ATU), Van Brahana, (UAF retired), Daniel Bullock (ATU), James Daly (UAMS retired), Wei Du (UAF), Jess Kelly (Ouachita Baptist), Walt Manger (UAF retired), Travis D. Marsico (ASU), Grover Miller (UAMS), Dennis Provine (Harding), Andy Sustich (ASU), Abraham Tucker (SAU), Francis Umesiri (JBU), and Brian Wagner (AR Game & Fish)

Even greater appreciation and sincere gratitude is extended to our dedicated judges for the student presentations including David Andrews (UAF), Doug Barron (ATU), Van Brahana (UAF retired), Hugh Churchill (UAF), Steve Cooper (Harding), Wei Du

(UAF), Jared Gavin (UA Monticello), Collis Geren (UAF retired), Frank Hardcastle (ATU), Mostafa Hemmati (ATU), Salomon Itza (College of the Ozarks), Steve Moore (Harding), James Musser (ATU), Kim Needy (UAF), Antoinette Odendaal (SAU), Dennis Provine (Harding), Amber Sierra (ATU), Kim Smith (UAF), Mary Stewart (SAU), Suresh Thallapuram (UAF), Abraham Tucker (SAU), Teresa Turk (NOAA retired), Susan Wache (SACC), Jessica Young (ATU) and Andrew Zhou (UAF).

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 Ann Willyard (President), Ed Wilson (President Elect), Abdel Bachri (Past President), Panneer Selvam (Vice President), Mostafa Hemmati (Treasurer and Journal Editor-in-Chief), Ivan Still (Journal Managing Editor), Panneer Selvam (Newsletter Editor), Salomon Itza (Webmaster), Collis Geren (Historian), and Jeff Robertson (Secretary).

Respectfully submitted on this 2nd day of April, 2016. Resolutions Committee: Ann Willyard (President), and Panneer Selvam (Chair of local organizing committee).

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Don	Bragg	USDA Forest Service	Doug	Barron	Arkansas Tech University
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Gary	Heidt	University of Arkansas-Little Rock	Gina	Hauptman	University of Arkansas-Fayetteville
Mostafa	Hemmati	Arkansas Tech University	Howard	Hendrickson	UAMS
Philip	Hyatt	Retired	Kamran	Iqbal	University of Arkansas-Little Rock
Shahidul	Islam	University of Arkansas-Pine Bluff	David	Jamieson	Crowder College
Cynthia	Jacobs	Arkansas Tech University	Olivia	Jamieson	University of Arkansas-Fayetteville
Douglas	James	University of Arkansas	Brandon	Kemp	Arkansas State University
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Jess	Kelly	Ouachita Baptist University	Brenda	Lauffart	Arkansas Tech University
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Michael	Rapp	University of Central Arkansas	Jason	Patton	Arkansas Tech University
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Jeff	Robertson	Arkansas Tech University	Blake	Sasse	Arkansas Game and Fish
Henry	Robison	Southern Arkansas University	Cheyenne	Sheppard	Arkansas State University
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David	Saugey	U.S. Forest Service	Mary	Stewart	University of Arkansas-Monticello
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