

2004

## 88th Annual Meeting, 2004. Program

Academy Editors

Follow this and additional works at: <https://scholarworks.uark.edu/jaas>

---

### Recommended Citation

Editors, Academy (2004) "88th Annual Meeting, 2004. Program," *Journal of the Arkansas Academy of Science*: Vol. 58, Article 4.

Available at: <https://scholarworks.uark.edu/jaas/vol58/iss1/4>

This article is available for use under the Creative Commons license: Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0). Users are able to read, download, copy, print, distribute, search, link to the full texts of these articles, or use them for any other lawful purpose, without asking prior permission from the publisher or the author.

This Arkansas Academy Annual Meeting report is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in Journal of the Arkansas Academy of Science by an authorized editor of ScholarWorks@UARK. For more information, please contact [scholar@uark.edu](mailto:scholar@uark.edu), [uarepos@uark.edu](mailto:uarepos@uark.edu).

## Arkansas Academy of Science

**PROGRAM**  
**Arkansas Academy of Science**  
**88th Annual Meeting**  
**April 2-3, 2004**  
**Arkansas State University**  
**SCHEDULE OF EVENTS**

## Friday morning

- 10:00 a.m. Registration begins. ASU Convocation Center lower level red entrance lobby
- 10:00 a.m.-11:30 a.m. Academy executive meeting. Convocation Center Auditorium.
- 10:00 a.m. Poster session begins. Convocation Center Room A (front part). Posters will be on display throughout the meeting.
- 11:30 a.m.-12:30 p.m. Annual meeting of the advisors and directions of the Ouachita Mountains Biological Station. Convocation Center Auditorium.

## Friday afternoon

- 1:00 p.m.-3:00 p.m. Oral presentations. 4 parallel sessions in Convocation Center Auditorium, Rooms A (back part), B, and C.
- 2:00 p.m. - 2:30 p.m. AAS Science Education Committee Meeting, conference room in the administration suite of the Convocation Center
- 3:00 p.m.-3:30 p.m. Coffee break.
- 3:30 p.m.-5:00 p.m. Oral presentations resume.
- 5:00 p.m.-6:00 p.m. First business meeting. Convocation Center Auditorium.

## Friday evening

- 6:00 p.m.-7:00 p.m. Mixer<sup>1,2</sup>. All participants are invited. Arkansas Academy of Science Camp by the pond north of the Convocation Center.
- 7:00 p.m.-8:00 p.m. Banquet and Music. Music by the Delta String Quartet. 7:10 p.m. Welcome speech. Dr. Rick McDaniel, ASU Senior Associate Vice Chancellor for Research and Academic Affairs. Grand Hall of the Fowler Center.
- 8:00 p.m.-9:00 p.m. Keynote speech. Dr. Jorge M. Vivanco, Colorado State University. Host: Dr. Hector Flores, Dean, College of Science and Mathematics, ASU. Grand Hall of the Fowler Center.

## Saturday morning

- 7:30 a.m.-8:00 a.m. Breakfast. Convocation Center lower level red entrance lobby.
- 8:00 a.m.-11:00 a.m. Oral presentations. Convocation Center Auditorium, Rooms A (back part), B, and C.
- 11:00 a.m.-12:00 noon. Second business meeting. Convocation Center Auditorium.
- 12:00 noon Adjourn.

<sup>1</sup>Sponsored partially by the Arkansas State University Water-Life-Rock Laboratory.

<sup>2</sup>Concurrent event: "Wallflowers" art exhibition. Bradbury Gallery at the Fowler Center.

## SECTION PROGRAMS

\* Undergraduate \*\*Graduate

## SCHEDULE OF ORAL PRESENTATION SESSIONS

Auditorium	Room A (back part)	Room B	Room C	
Friday 1:00 p.m. -3:00 p.m.	Environmental Biology	Engineering 1	Cell and Molecular Biology	Chemistry 1
Friday 3:30 p.m. -5:00 p.m.	Arthropod Biology	Physics	Plant Biology	
Saturday 8:00 a.m. -11:00 a.m.	Wildlife Ecology and Education	Geosciences and Science	Aquatic Biology	Chemistry 2 Engineering 2

(Friday 8:45 a.m.-Saturday 11:50 am Statistics Symposium. Computer Science/Mathematics Building Room 217)

## ORAL PRESENTATIONS

Friday, April 2, 2004  
**Environmental Biology**  
 Location: ASU Convocation Center  
 lower level red entrance Auditorium

Time	Topic
1:00	D.F. Gilmore and K. Halcom, Dept. of Biological Sciences, Arkansas State University, PO Box 599, State University, AR 72467. <b>UV RADIATION RESISTANCE OF PAINT-CONTAMINATING BACTERIA</b>
1:15	<u>Darren Hess</u> (1), Jeannette Loutsch (1) and Jon Russ (2) (1) Department of Biological Sciences, Arkansas State University, State University, AR 72467 (2) Department of Chemistry and Program and Environmental Sciences, Arkansas State University, State University, AR 72467. <b>IDENTIFICATION OF CULTURED MICROBES GROWING ON PREHISTORIC ROCK ART</b>
1:30	<u>Burmshik Kim</u> and Kenneth F. Steele, 113 Ozark Hall, Environmental Dynamics Program, University of Arkansas, Fayetteville, AR72701 and Todd Fugitt Arkansas Soil and Water Conservation Commission, 101 East Capitol, Suite 350, Little Rock, AR 72201. <b>COMPARISON OF</b>

## Secretary's Report

	<b>FILTERED AND UNFILTERED GROUND-WATER QUALITY, EASTERN ARKANSAS</b>	1:30	<b>Heng Wu, Jun Gao, Wallace D. Sharif, Mari K. Davidson, and Wayne P. Wahls. A COMBINATORIAL, FACTORIAL APPROACH TO REFOLDING OF RECOMBINANT REC12 PROTEIN OF FISSION YEAST.</b>
1:45	Richard S. Grippo and <u>Melissa Milligan</u> Department of Biological Sciences, Arkansas. <b>DIFFERENCES IN WATER QUALITY AND LEAF DEGRADATION ON UPPER AND LOWER REACHES OF TRIBUTARIES OF THE L'ANGUILLE RIVER, ARKANSAS</b>	1:45	Malathi Srivatsan, Dept. of Biological Sciences, Arkansas State University, AR 72467. <b>ACETYLCHOLINESTERASE BINDS TO DISSOCIATED DRG NEURONS OF RAT</b>
2:00	Blaine W. Schubert. Environmental Dynamics, 113 Ozark Hall, University of Arkansas, Fayetteville, AR 72701. <b>PLEISTOCENE CAVE FAUNAS OF ARKANSAS</b>	2:00	<u>K. Mark DeWall</u> , Mari K. Davidson, Wallace D. Sharif, and Wayne P. Wahls Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, Little Rock, AR 72205. <b>A TWO DIMENSIONAL ELECTROPHORESIS ASSAY TO DETECT MEIOTICALLY INDUCED SINGLE-STRANDED NICKS IN GENOMIC DNA</b>
	Friday, April 2, 2004 <b>Engineering 1</b> Location: ASU Convocation Center lower level red entrance Room A	2:15	<u>Yang Ou</u> and Wayne L. Gray. Dept. of Microbiology and Immunology, Univ. of Arkansas for Medical Sciences, Little Rock, AR 72205. <b>CHARACTERIZATION OF SIMIAN VARICELLA VIRUS GENE 29 PROMOTER</b>
<b>Time</b>	<b>Topic</b>	2:30	<u>Kara Davis</u> , and Wayne L. Gray. Dept. of Microbiology and Immunology. Univ. of Arkansas for Medical Sciences, Little Rock, AR, 72205. <b>A COSMID BASED SYSTEM FOR GENERATING SIMIAN VARICELLA VIRUS MUTANTS</b>
1:00	<u>Emily Meeker</u> , Dr. Robert Engelken, Randy Stidham, Anil Baral, David Harlan, and Matthew Lemay, Optoelectronic Materials Research Laboratory, College of Engineering, Arkansas State University, P.O. Box 1740, State University, AR 72467. <b>DEPOSITION AND PHOTOCONDUCTANCE OF SEMICONDUCTOR - POLYMER FILMS</b>	2:45	Jennifer Morton, Roger Abernathy Department of Mathematics and Statistics, PO Box 70, Arkansas State University, State University, AR 72467. <b>A PROCEDURE FOR DETERMINING THE RELIABILITY OF A FLUID TRANSPORT SYSTEM</b>
1:15	David Harlan, Dr. Robert Engelken, Matthew Lemay, <u>Randy Stidham</u> , Emily Meeker, and Anil Baral, Optoelectronic Materials Research Laboratory, Arkansas State University College of Engineering, P.O. Box 1740, State University, AR 72467; Dr. Tito Viswanathan, Department of Chemistry, University of Arkansas-Little Rock, 2801 South University Avenue, Little Rock, AR 72204. <b>SPRAY DEPOSITION OF IRON COMPOUND-BASED MAGNETIC COMPOSITE FILMS</b>		Friday, April 2, 2004 <b>Chemistry 1</b> Location: ASU Convocation Center lower level red entrance Room C
1:30	<u>Randy Stidham</u> , Dr. Robert Engelken, Anil Baral, Emily Meeker, David Harlan, and Matthew Lemay, Optoelectronic Materials Research Laboratory, Arkansas State University College of Engineering, P.O. Box 1740, State University, AR 72467. <b>COPPER DOPING OF EVAPORATED INDIUM (III) SULFIDE FILMS</b>	<b>Time</b>	<b>Topic</b>
1:45	<u>Anil Baral</u> , Dr. Robert Engelken, Randy Stidham, Emily Meeker, David Harlan, and Matthew LeMay, Environmental Sciences and Engineering Programs, Arkansas State University, P.O. Box 1740, State University, AR 72467. <b>ELECTRODEPOSITION OF CHROMIUM (III) FROM GLYCINE AND FORMIC ACID BATHS</b>	1:00	<u>Sarah Spades</u> and Jon Russ, Department of Chemistry and Program of Environmental Sciences, Arkansas State University, State University, AR 72467. <b>ANALYSIS OF FATTY ACIDS IN PREHISTORIC ROCK PAINTS USING GC-MS</b>
2:00	<u>Willie Nelson</u> , Alvin Ong, and Daniel Bullock, <i>Department of Physical Science</i> , Arkansas Tech University. <b>GROWTH RATE CALCULATIONS FOR ELECTRONIC DEVICE PRODUCTION</b>	1:15	<u>Mai A. Elobeid</u> , David H. Clarke, Robyn Hannigan and Jon Russ, Department of Chemistry and Program of Environmental Sciences, Arkansas State University, State University, AR 72467. <b>CHEMICAL ANALYSIS OF TOBACCO SMOKE USING GC-NCD, GC-SCD, GC-FID AND GC-ICP-MS</b>
	Friday, April 2, 2004 <b>Cell and Molecular Biology</b> Location: ASU Convocation Center lower level red entrance Room B	1:30	Hamilton, B., Bickford, N., and Hannigan, R. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>ELEMENTAL VARIATION OF ENDOLYMPH AND OTOLITH COMPOSITION IN MOXOSTOMA ERYTHRURUM</b>
<b>Time</b>	<b>Topic</b>	1:45	Clarke, D., Bickford, N., Hannigan, R. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>ANALYSIS OF DISSOLVED ORGANIC CARBON IN AN INTERCONNECTED DITCH SYSTEM IN THE DELTA AGRICULTURAL ZONE OF ARKANSAS</b>
1:00	James J. Daly Sr.*, Max L. Baker+, and Terry L. Hostetler*; Departments of Microbiology and Immunology* and Radiology+, University of Arkansas for Medical Sciences, 4301 Markham Ave. Little Rock, AR 72205. <b>THE EFFECT OF IONIZING RADIATION ON TRICHOMONAS VAGINALIS: INCREASE IN LARGE, PIGMENTED INTRACELLULAR BODIES ASSOCIATED WITH THE INABILITY OF CELLS TO DIVIDE</b>	2:00	<u>Ogendi, G.M.</u> , R.E. Hannigan, J.L. Farris, and D.L. Smith.. Department of Chemistry and Program for Environmental Science, Arkansas State University, State University, AR 72467. <b>THE IMPACT OF BLACK SHALE WEATHERING ON SEDIMENT QUALITY: PRELIMINARY FINDINGS</b>
1:15	<u>Stephen C. Grace</u> <sup>1</sup> and Richard B. Walker <sup>2</sup> <sup>1</sup> Department of Biology, University of Arkansas at Little Rock, 2801 S. University, Little Rock, AR 72204 <sup>2</sup> Department of Chemistry and Physics, University of Arkansas at Pine Bluff, Box 4941, 1200 N. University Ave., Pine Bluff, AR 71611. <b>THIAZOLIDINES INHIBIT OXIDATIVE DAMAGE TO DNA CAUSED BY PEROXYNITRITE</b>		Friday, April 2, 2004 <b>Arthropod Biology</b> Location: ASU Convocation Center lower level red entrance Auditorium
		<b>Time</b>	<b>Topic</b>
		3:30	Tsunemi Yamashita, Department of Biological Sciences, Arkansas Tech

## Arkansas Academy of Science

University, Russellville, AR 72801. **LIFE HISTORY CHARACTERISTICS, BIOMASS, AND PHENOLOGY OF THE STRIPED SCORPION, *CENTRUROIDES VITTATUS*, IN ARKANSAS.**

Time

3:30

Topic

Zachary Elder and Brett E. Serviss. Department of Biology. Henderson State University. Arkadelphia, AR 71999-0001. **POTENTIAL NEW ADDITIONS TO THE ARKANSAS FLORA.**

3:45 Dr. Laurence M. Hardy, Museum of Life Sciences, Louisiana State University in Shreveport, One University Place, Shreveport, LA 71115-2399. **TREES USED FOR TUBE SUPPORT BY *SPHODROS RUFIPES* (LATREILLE 1829)(ARANEAE: ATYPIDAE) IN NORTHWESTERN LOUISIANA.**

3:45

Hyatt, Philip E. U.S.D.A. Forest Service, Southern Region. Suite 816N, 1720 Peachtree Road NW, Atlanta, GA 30309-2417. **NOTEWORTHY COLLECTIONS: ARKANSAS *CAREX* UPDATE**

4:00 Janelle C. Johnson and Matthew D. Moran. Department of Biology, Hendrix College, 1600 Washington Ave., Conway, AR 72032. **THE ROLE OF FIRE, NUTRIENTS, AND ARTHROPOD PREDATION IN ARKANSAS GRASSLANDS**

4:00

Travis D. Marsico UARK Herbarium, Biomass Research Center 141, Fayetteville, AR 72701. **VASCULAR PLANT SPECIES INVENTORY OF RICHARDSON BOTTOMS WILDLIFE VIEWING AREA**

4:15 George L. Harp, Arkansas State University, Department of Biological Sciences, P.O. Box 599, State University, Arkansas 72467; Steve W. Chordas III, The Ohio State University, 1791 Neil Avenue, Columbus, Ohio 43210. **SYNOPSIS OF THE WATERBOATMEN (HEMIPTERA: CORIXIDAE) OF ARKANSAS.**

4:15

Don C. Bragg, USDA Forest Service, Southern Research Station, P.O. Box 3516 UAM, Monticello, AR 71656. **HISTORICAL REFLECTIONS ON THE ARKANSAS CROSS TIMBERS**

4:30 Michelle L. Cameron, Chris T. McAllister and Rowland M. Shelley. Department of Biology, Texas A&M University-Texarkana, Texarkana, TX 75505 (MLC, CTM), and North Carolina State Museum of Natural Sciences, 4301 Reedy Creek Road, Raleigh, NC 27607 (RMS). **NEW GEOGRAPHIC DISTRIBUTION RECORDS FOR *THEATOPS POSTICUS* (CHILOPODA: SCOLOPENDROMORPHA: CRYPTOPIDAE), IN OKLAHOMA.**

4:30

Paul F. Doruska\*, David W. Patterson\*, and Travis E. Posey\*  
\* University of Arkansas School of Forest Resources; Arkansas Forest Resources Center PO Box 3468, Monticello, AR 71656 \*Mid-South Engineering, P.O. Box 1399, Hot Springs, AR 71902. **STAND-LEVEL GREEN WEIGHT EQUATIONS FOR LOBLOLLY PINE SAWTIMBER**

Friday, April 2, 2004

**Wildlife Ecology and Zoology**

Location: ASU Convocation Center  
lower level red entrance Auditorium

4:45 Michael D. Warriner, Arkansas Natural Heritage Commission, 1500 Tower Building, 323 Center Street, Little Rock, AR 72201. **REDISCOVERY OF *BOMBUS FERVIDUS* (HYMENOPTERA: APIDAE) IN ARKANSAS AFTER 90 YEARS**

Time

8:00

Topic

Elizabeth Ellis and Ragupathy Kannan, Department of Biology, University of Arkansas - Fort Smith, Fort Smith, AR 72913. **THE WESTERN KINGBIRD (*TYRANNUS VERTICALIS*): A RECENTLY ESTABLISHED BREEDING BIRD IN ARKANSAS**

Friday, April 2, 2004

**Physics**

Location: ASU Convocation Center  
lower level red entrance Room A

Time

3:30

Topic

Scott Austin, University of Central Arkansas, Department of Physics and Astronomy, Conway, AR 72034. **Be STAR SPECTROSCOPY USING THE UCA FIBER-FED SPECTROGRAPH**

3:45 Deborah L. Herden and Alois J. Adams Department of Physics and Astronomy, University of Arkansas at Little Rock, Little Rock, AR 72204. **SPECTRAL REFLECTANCE OF RICE SEEDLINGS**

4:00 Chris Justice and Mostafa Hemmati, Arkansas Tech University, Russellville, AR 72801. **ELECTRIC DISCHARGE: BOUNDARY CONDITIONS**

4:15 Bin Zhang, Donald Johnson Department of Chemistry and Physics, Arkansas State University, P.O. Box 419, State University, AR 72467-0419. **CENTRALITY DEPENDENCE OF  $J/\psi$  PRODUCTION FROM A GLUON PLASMA**

4:30 Bin Zhang, Department of Chemistry and Physics, Arkansas State University, P.O. Box 419, State University, AR 72467-0419. **SIMULATING RELATIVISTIC BOLTZMANN EQUATION FOR COLLECTIVE NUCLEAR MOTION**

4:45 Sergey I. Kudryashov, Department of Chemistry and Physics, Arkansas State University, State University, AR 72467-0419, USA. **THE ROLE OF DYNAMIC FRANZ-KELDYSH EFFECT AT FEMTOSECOND LASER BREAKDOWN AND BULK DAMAGE IN DIELECTRICS**

Friday, April 2, 2004

**Plant Biology**

Location: ASU Convocation Center  
lower level red entrance Room B

8:15

William C. Holimon, Arkansas Natural Heritage Commission; 1500 Tower Building, 323 Center Street; Little Rock, AR 72201; Robert H. Doster, U.S. Department of the Interior, Bureau of Reclamation; 555 Broadway NE, Suite 100; Albuquerque, NM 87102; Douglas A. James, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701; Joseph C. Neal, U.S. Forest Service, P.O. Box 2255, Waldron, AR 72958; William M. Shepherd; 2805 Linden, Apt. 3; Little Rock, AR 72205. **FIRST DOCUMENTATION THAT THE HENSLOW'S SPARROW REGULARLY WINTERS AND BREEDS IN ARKANSAS**

8:30

Bryan Bedrosian, Amy St.Pierre, and James C. Bednarz. **INJURY AND DEATH: A RAPTOR'S PARADOX**

8:45

TJ Robinson and Thomas S. Risch, Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, AR 72467. **EGG SIZE AND PARENTAL QUALITY, AN EXPERIMENT TO EVALUATE THEIR SEPARATE EFFECTS UPON CHICK PERFORMANCE IN THE EASTERN BLUEBIRD (*SIALIA SIALIS*)**

9:00

Robert E. Kissell, Jr. and Philip A. Tappe. Arkansas Forest Resources Center, School of Forest Resources, University of Arkansas - Monticello, Monticello, AR 71656. **AN ASSESSMENT OF THERMAL INFRARED DETECTION RATES USING WHITE-TAILED DEER SURROGATES**

9:15

McCammon, Erin E., Philip A. Tappe, and Robert E. Kissell, Jr. School of Forest Resources and Arkansas Forest Resources Center, University of Arkansas, Monticello, AR 71656. **COMPARISON OF BUCK:DOE AND DOE:FAWN RATIOS OBTAINED THROUGH SPOTLIGHTING AND GROUND-BASED THERMAL INFRARED IMAGING.**

- 9:30 Allison Fowler and Robert. E. Kissell, Jr. School of Forest Resources, University of Arkansas-Monticello, Monticello, AR 71656. **WINTER RELATIVE ABUNDANCE AND HABITAT CHARACTERISTICS OF SWAMP RABBITS IN EASTERN ARKANSAS.**
- 9:45 Thomas S. Risch, Blake Grisham, Robert Langele, Elizabeth Compton, Elizabeth Easley, and Sarah DeViney Department of Biological Sciences, Arkansas State University. **COMPARISON OF SMALL MAMMAL POPULATIONS IN GENETICALLY MODIFIED AND CONVENTIONAL CROPS**
- 10:00 Zachary D. Ramsey, Chris T. McAllister, D. Blake Sasse, and David A. Saugey. Department of Biology, Texas A&M University-Texarkana, Texarkana, TX 75505 (ZDR, CTM); Arkansas Game and Fish Commission, #2 Natural Resources Drive, Little Rock, AR 72205 (DBS); and U.S. Forest Service, P.O. Box 189, Jessieville, AR 71949 (DAS). **PRELIMINARY RESULTS OF THE 2003 OUCHITA MOUNTAINS BAT BLITZ, WEST-CENTRAL ARKANSAS.**
- 10:15 Ty D. Blacklock, Gary A. Heidt, and David A. Saugey; Department of Biology University of Arkansas at Little Rock, Little Rock, AR 72204 (TDB, GAH) and U.S. Forest Service Star Route, Box 8A Jessieville, AR 71949 (DAS) **REPORTED ANIMAL RABIES IN ARKANSAS: 1991-2003**
- 10:30 Chris T. McAllister, Steve J. Upton, Charles R. Bursey, and Zachary D. Ramsey. Department of Biology, Texas A&M University-Texarkana, Texarkana, TX 75505 (CTM, ZDR); Department of Biology, Ackert Hall, Kansas State University, Manhattan, KS 66506 (SJU); Department of Biology, Pennsylvania State University-Shenango Valley Campus, Sharon, PA 16146 (CRB). **PARASITES (COCCIDIA, TREMATODA, NEMATODA) FROM SELECT BATS (CHIROPTERA) OF ARKANSAS, MISSISSIPPI, OKLAHOMA, AND TEXAS**
- 10:45 Angela D. Burns, Chris T. McAllister and Charles R. Bursey. Department of Biology, Texas A&M University-Texarkana, Texarkana, TX 75505 (ADB, CTM); and Department of Biology, Pennsylvania State University-Shenango Valley Campus, Sharon, PA 16146 (CRB). **GASTROINTESTINAL HELMINTHS OF RAFINESQUE'S BIG-EARED BAT, *CORYNORHINUS RAFINESQUII* (CHIROPTERA: VESPERTILIONIDAE), FROM SOUTHWESTERN ARKANSAS.**
- Saturday April 3, 2004  
**Geosciences and Science Education**  
Location: ASU Convocation Center  
lower level red entrance Room A
- Time**      **Topic**
- 8:00 J.L. Bouldin, N.A. Bickford, G. Guha, B. Stroud, Environmental Sciences Ph.D. Program, Arkansas State University, State University, AR 72467. **TAILWATER RECOVERY SYSTEMS FOR IRRIGATION AS WATER RESOURCE CONSERVATION TECHNIQUE IN NORTHEAST ARKANSAS**
- 8:15 Robert C. Weih, Jr. and Tabitha Mattson, Spatial Analysis Laboratory (SAL), University of Arkansas-Monticello. Arkansas Forest Resources Center, School of Forest Resources 110 University Court, Monticello, Arkansas 71656. **MODELING SLOPE IN A GEOGRAPHIC INFORMATION SYSTEM**
- 8:30 Dr. Ann Ross, Arkansas State University, Department of Teacher Education, Box 2350, State University, AR 72467. **A COMPARISON OF TOPICS AND LABORATORIES TAUGHT IN SECONDARY CHEMISTRY COURSES TO THEIR IMPORTANCE AS PERCEIVED BY COLLEGE CHEMISTRY TEACHERS IN ARKANSAS**
- 8:45 Tillman Kennon, Arkansas State University, Chemistry & Physics
- 9:00 Dr. Wilson J. González-Espada, Department of Physical Science, Arkansas Tech University, 1701 North Boulder Avenue, Russellville AR 72801. **IS MATHEMATICS BACKGROUND A PREDICTOR OF COMPLETION AND SUCCESS IN GENERAL EDUCATION PHYSICAL SCIENCE?**
- 9:15 Steve Zimmer, Math & Science Institute, Arkansas Tech University, Russellville, AR 72801-2222. **THE RETENTION OF ABSTRACT CONCEPTS IN SCIENCE BY ADOLESCENTS**
- 9:30 Blair, B. G., G. R. Cline and W. R. Bowen,<sup>1</sup> Jacksonville State University, Biology Department, 700 Pelham Road North, Jacksonville, AL 36265. <sup>1</sup>Emeritis, Maumelle, AR 72113. **GRANTSMANSHIP AND NSF-STYLE STUDENT PEER REVIEW IN AN UNDERGRADUATE RESEARCH EXPERIENCE**
- Saturday April 3, 2004  
**Aquatic Biology**  
Location: ASU Convocation Center  
lower level red entrance Room B
- Time**      **Topic**
- 8:00 Elizabeth Pope, Michelle Dare and James Engman, Biology Department, Henderson State University, Box 7520, Arkadelphia, AR, 71999. **PATTERNS IN THE OCCURRENCE OF FRESHWATER SPONGE ON THE AQUATIC PLANT *EGERIA Densa* IN DEGRAY LAKE, ARKANSAS: DENSITY, DISTRIBUTION AND COMMUNITY COMPOSITION.**
- 8:15 Steve W. Chordas III, The Ohio State University, 1791 Neil Avenue, Columbus, Ohio 43210; Patrick L. Hudson, USGS, Great Lakes Science Center, 1451 Green Road, Ann Arbor, Michigan 48105; Eric G. Champan, Department of Biology, Kent State University, Kent, Ohio 44242. **AUGMENTATION OF THE AQUATIC DIPTERA FAUNA OF THE WHITE RIVER NATIONAL WILDLIFE REFUGE, ARKANSAS.**
- 8:30 Henry W. Robison, Department of Biology, Southern Arkansas University, Magnolia, AR 71754; and Betty G. Crump, U.S.D.A. Forest Service, Hot Springs National Forest, Hot Springs, Arkansas 71902. **DISTRIBUTION, STATUS, AND LIFE HISTORY ASPECTS OF THE ARKANSAS ENDEMIC CRAYFISH, *FALLICAMBARUS HARPI* HOBBS AND ROBISON**
- 8:45 David A. Etnier, Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN 37996; and Henry W. Robison, Department of Biology, Southern Arkansas University, Magnolia, AR 71754. **AN UNUSUAL *HYBOGNATHUS* (OSTEICHTHYES, CYPRINIDAE) FROM LOWER WHITE RIVER, ARKANSAS**
- 9:00 Mary C. Scott, Jerry L. Farris, John L. Harris, Alan D. Christian, Environmental Science Program and Department of Biological Sciences, Arkansas State University, State University, AR. 72467. **PROPAGATION OF THE ARKANSAS FATMUCKET, *LAMPSILIS POWELLII* (LEA, 1853).**
- 9:15 Stephanie F. Barclay, Chris T. McAllister, Department of Biology, Texas A&M University, Texarkana, TX 75505; and Henry W. Robison, Department of Biology, Southern Arkansas University, Magnolia, AR 71754. **NEW GEOGRAPHIC DISTRIBUTION RECORDS FOR THE FLIER, *CENTRARCHUS MACROPTERUS* (PERCIFORMES: CENTRARCHIDAE), FROM SOUTHWESTERN ARKANSAS.**
- 9:45 Stanley E. Trauth and Robert G. Neal, Department of Biological Sciences, Arkansas State University, State University, AR 72467-0599.

**FEEDING RESPONSE BY THE LEECH *MACROBDELLA DIPLLOTERTIA* (ANNELIDA: HIRUDINEA) ON WOOD FROG AND SPOTTED SALAMANDER EGG MASSES**

- 10:00 Chris T. McAllister, Charles R. Burse, and Stanley E. Trauth. Department of Biology, Texas A&M University-Texarkana, Texarkana, TX 75505; Department of Biology, Pennsylvania State University-Shenango Valley Campus, Sharon, PA 16146; and Department of Biological Sciences, Arkansas State University, State University, AR 72467. **HELMINTH PARASITES OF THE GROTTO SALAMANDER, *TYPHLOTRITON SPELAEUS* (CAUDATA: PLETHODONTIDAE), FROM NORTHERN ARKANSAS AND SOUTHERN MISSOURI.**
- 10:15 Renn Tumison and Brett Serviss. Department of Biology, Henderson State University, Arkadelphia, AR 71999-0001. **PAEDOMORPHIC MOLE SALAMANDERS (*AMBYSTOMA TALPOIDEUM*) AS CONTROLLING PREDATORS IN FISHLESS PONDS, WITH SUBSEQUENT METAMORPHOSIS**
- 10:30 John Phillip Stewart, Robert G. Neal, Charles R. McDowell, and Stanley E. Trauth, Department of Biological Sciences, Arkansas State University, State University, AR 72467-0599. **THE OCCURRENCE OF EASTERN TIGER SALAMANDERS (*AMBYSTOMA T. TIGRINUM*) IN THE HAROLD E. ALEXANDER WILDLIFE MANAGEMENT AREA, SHARP COUNTY, ARKANSAS**
- 10:45 Benjamin A. Wheeler<sup>1</sup>, Alan D. Christian<sup>2</sup>, and Stanley E. Trauth<sup>2</sup>. <sup>1</sup>Department of Environmental Sciences, Arkansas State University, State University, AR 72467; <sup>2</sup>Department of Biological Sciences, Arkansas State University, State University, AR 72467. **HABITAT ASSESSMENT FOR THE OZARK HELLBENDER (*CRYPTOBRANCHUS ALLEGANIENSIS BISHOP*) USING STANDARD PROTOCOLS**

Saturday April 3, 2004

**Chemistry 2**

Location: ASU Convocation Center  
 lower level red entrance Room C

- | Time | Topic   |
|------|---|
| 8:00 | <u>Andrea Hausman</u> , M. Draganjac, Ryan Morgan, Angela Buckman, Bryanna Lies, Department of Chemistry and Physics, Arkansas State University, State University, AR 72467 and Bill Durham, Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701. <b>CHROMIUM-HEXADENTATE BIPYRIDYL COMPLEXES AS PHOTOACTIVATORS FOR PROTEIN ELECTRON TRANSFER</b>   |
| 8:15 | <u>Matthew Horton</u> , Nate Bickford, and Robyn Hannigan. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>UPTAKE AND STORAGE OF METALS BY CRAYFISH</b>  |
| 8:30 | <u>Bradley T. Hamilton</u> (1), Robyn E. Hannigan (1), Bill J. Gurley (3), Anne A. Grippo (2). Arkansas State University, State University, AR 72467 (1) Department of Chemistry & Physics; (2) Department of Biological Sciences. (3) University of Arkansas for Medical Sciences, College of Pharmacy, Department of Pharmaceutical Sciences, Little Rock, AR. <b>METALS CONCENTRATIONS IN OVER-THE-COUNTER HERBAL PREPARATIONS</b> |
| 8:45 | <u>Anwar A. Bhuayan</u> <sup>1</sup> and James R. Kincaid <sup>2</sup> <sup>1</sup> Department of Physical Sciences, Arkansas Tech University, Russellville, AR 72801; <sup>2</sup> Chemistry Department, Marquette University, Milwaukee, WI 53233. <b>STUDIES OF HOST-GUEST COMPLEXES</b>   |
| 9:00 | <u>Jason Martin</u> and Anthony K. Grafton* Department of Chemistry, Lyon College, PO Box 2317, Batesville, Arkansas. <b>MOLECULAR DYNAMICS SIMULATIONS OF THE WATER SOLVATION OF END-FUNCTIONALIZED CARBON NANOTUBES</b>   |

Saturday April 3, 2004

**Engineering 2**

Location: ASU Convocation Center  
 lower level red entrance Room C

- | Time  | Topic   |
|-------|---|
| 9:30  | <u>Shakhrukh Ismonov</u> , Ryan O. Meyer, Andrea L. Meeker, Brad Edgar, Paul Sherman. College of Engineering, Arkansas State Univ. P.O. Box 1740, State University, AR 72467. <b>BENCHMARK TESTING OF A BEOWULF-CLASS PARALLEL CLUSTER FOR SCIENTIFIC COMPUTING</b>   |
| 9:45  | <u>Ryan O. Meyer</u> , Shakhrukh Ismonov, Andrea L. Meeker, Brad Edgar, Paul Sherman College of Engineering, Arkansas State University, P.O. Box 1740, State University, AR 72467. <b>USE OF COMPACT DIFFERENCE SCHEMES FOR SOLUTION TO BENCHMARK PROBLEMS IN AEROACOUSTICS</b>   |
| 10:00 | <u>Anindo Roy*</u> and Kamran Iqbal**. * Dept of Applied Sc., Univ. of Arkansas at Little Rock, 2801 S. Univ. Ave., Little Rock, AR 72204. ** Dept of Syst. Eng., Univ. of Arkansas at Little Rock, 2801 S. Univ. Ave., Little Rock, AR 72204. <b>CAN MUSCLE STIFFNESS ALONE STABILIZE BODY SWAY?</b>   |
| 10:15 | <u>Shivan Haran</u> , Department of Mechanical Engineering, Arkansas State University, P.O. Box 1740, State University, AR 72467-1740. Mark K. Bradley, Planning & Research Division, Arkansas State Highway & Transportation Dept., 10324 Interstate 30, Little Rock, AR 72203-2261. <b>HEALTH MONITORING OF STRUCTURES - APPLICATION TO BRIDGES</b> |
| 10:30 | Shivan Haran, Ph.D. Department of Mechanical Engineering, Arkansas State University, P.O. Box 1740, State University, AR 72467-1740. <b>EMBEDDED PIEZOELECTRIC TRANSDUCERS IN HEALTH MONITORING OF CONCRETE BEAMS</b>   |

**POSTER PRESENTATIONS**

Friday, April 2, 2004

**Engineering 2**

Location: ASU Convocation Center  
 lower level red entrance Room A

- | Time | Topic   |
|------|---|
|      | M. Draganjac, <u>Brad Hamilton</u> , April Adams, Angela Buckman and Student Affiliates, Department of Chemistry and Physics, Arkansas State University, State University, AR 72467. <b>GREEN CHEMISTRY</b>   |
|      | Howard, R., Bickford, N., and Hannigan, R. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>AGE AND GROWTH ANALYSIS OF CYPRINID, ICTALURID, FUNDULID, COTTID, AND PERCID SPECIES IN THE SPRING RIVER, AR</b>  |
|      | Ben McDaniel, Nate Bickford, Robyn Hannigan Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>AGE AND GROWTH PATTERNS OF FISH (SUCKER) FROM THE SPRING RIVER IN ARKANSAS</b>   |
|      | Michael J. Panigot, <u>Jessica Botte</u> , Jeremy Lamb, <u>Megan McDonald</u> , <u>Gayle Nichols</u> , <u>Valerie Orrick</u> , <u>Adam Pearrow</u> , <u>Zachary Roe</u> , Matt Whiteside, Andrea Hausman, Angela Buckman, Bryanna Lies, Ryan Morgan, Mark Draganjac, Department of Chemistry, Arkansas State University, PO Box 419, State University, AR 72467-0419. <b>STEPS TOWARD THE PREPARATION OF THIOGLYCOSIDE DENDRIMERS</b> |
|      | Walls, J., Bickford, N., and Hannigan, R. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. <b>AGE AND GROWTH ANALYSIS OF CENTRARCHID SPECIES IN THE SPRING RIVER, AR.</b>  |

Secretary's Report

Young, S., Bickford, N., and Hannigan, R. Arkansas State University, Department of Chemistry, PO Box 419, State University, AR 72467. **AGE AND GROWTH PATTERNS OF LARGE MOUTH BASS, SMALL MOUTH BASS, AND SPOTTED BASS FROM THE SPRING RIVER IN ARKANSAS.**

Danielle R. Rinke, Timothy Voris and Floyd Beckford\* Science Division, Lyon College, Batesville, AR 72501. **SYNTHESIS OF ORGANOMETALLIC RUTHENIUM COMPLEXES AND THEIR USE AS CATALYSTS FOR TRANSFER HYDROGENATION REACTIONS IN IONIC LIQUIDS.**

R. Davic Pace and Patrick McLaurin Lyon College, P.O. Box 2317, Batesville, AR 72501. **A SOLVENTLESS MICROWAVE-ASSISTED MALONIC ESTER SYNTHESIS**

Valbona Bashari and Anthony K. Grafton\* Department of Chemistry, Lyon College, PO Box 2317, Batesville, Arkansas. **THE ORIGIN OF ESTER RESONANCE: A COMPUTATIONAL STUDY USING HARTREE-FOCK AND DENSITY FUNCTIONAL METHODS**

Tatiana Abramova, Dr. David F. Gilmore Department of Biological Sciences, Arkansas State University, AR, 72467. **BACTERIAL DEGRADATION OF LOW MOLECULAR WEIGHT SULFONATES**

Susan K. Gregory, Robert E. Kissell, Jr., and Philip A. Tappe, School of Forest Resources, Arkansas Forest Resources Center, University of Arkansas - Monticello, Monticello, AR 71656 USA. **A COMPARISON OF WHITE-TAILED DEER POPULATION SIZE USING AERIAL THERMAL INFRARED IMAGING AND INFRARED-TRIGGERED CAMERAS**

Hyatt, Philip E. U.S.D.A. Forest Service, Southern Region. Suite 816N, 1720 Peachtree Road NW, Atlanta, GA 30309-2417. **CYPERACEAE FLORA OF ARKANSAS, U.S.A. IN RELATION TO THE ARKANSAS FLORA PROJECT**

Catherine L. Kossover and Cynthia J.M. Kane, Department of Neurobiology & Developmental Sciences, University of Arkansas Medical Sciences, 4301 W. Markham, Little Rock, AR 72205. **ALCOHOL INCREASES MICROGLIAL EXPRESSION OF THE CHEMOKINES MIP- $\beta$ , MIP-1 $\alpha$ , and MCP-1**

McCammon, Erin E., Philip A. Tappe, and Robert E. Kissell, Jr. School of Forest Resources and Arkansas Forest Resources Center, University of Arkansas, Monticello, AR 71656. **A COMPARISON OF GROUND-BASED THERMAL INFRARED IMAGING TO SPOTLIGHT COUNTS OF WHITE-TAILED DEER.**

D. Blake Sasse, Arkansas Game and Fish Commission, #2 Natural Resources Drive, Little Rock, AR 72205. **HUMAN RABIES POST-EXPOSURE TREATMENT IN ARKANSAS, 1994-2000.**

Amy M. St. Pierre and James C. Bednarz, Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, AR 72467. **LANDSCAPE CHARACTERISTICS OF MISSISSIPPI KITE NEST SITES IN SOUTHEASTERN ARKANSAS**

Jaimie Varner and James C. Bednarz, Department of Biological Sciences, Arkansas State University, Jonesboro, AR 72467. **INCIDENCE OF ABNORMALITIES IN FARM FIELD BIRDS IN NORTHEASTERN ARKANSAS**

Hutchinson, C.M., Dowell, J.C., and Boss, S.K., Department of Geosciences, 113 Ozark Hall, University of Arkansas-Fayetteville, Fayetteville, AR 72701. **BEDROCK GEOLOGY OF SONORA QUADRANGLE, BENTON & WASHINGTON COUNTIES, ARKANSAS**

Dowell, J.C., Hutchinson C.M, and Boss, S.K., Department of Geosciences, 113 Ozark Hall, University of Arkansas-Fayetteville, Fayetteville, AR 72701. **BEDROCK GEOLOGY OF ROGERS QUADRANGLE, BENTON COUNTY, ARKANSAS**

S.I. Kudryashov, Department of Chemistry and Physics, Arkansas State University, P O Box 419, Jonesboro-72467, S.D. Shukla, Department of Mechanical Engineering, University of Memphis, Memphis - 38152, S.D. Allen, Department of Chemistry and Physics, Arkansas State University, P O Box 419, Jonesboro-72467. **NANO-SIZED PARTICLE REMOVAL FROM CRITICAL SURFACES**

P.C. Millett\*, R.P. Selvam\*, A. Saxena, \*Computational Mechanics Laboratory, Bell 4190, University of Arkansas, Fayetteville, AR 72701. **MOLECULAR DYNAMICS SIMULATION OF THE EFFECTS OF DOPING IN THE VICINITY OF A BICRYSTAL GRAIN BOUNDARY**