

1999

83rd Annual Meeting, 1999. Program

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PROGRAM
Arkansas Academy of Science
83rd Annual Meeting
April 2-3, 1999
Arkansas Tech University

SCHEDULE OF EVENTS

Friday, April 2, 1999

9:00 am. - 11:00 p.m.	Executive Committee Meeting	Doc Brian Student Services Bldg. 104
11:00 a.m. - 4:00 p.m.	Registration	McEver Entrance
11:00 a.m. - 12:00 p.m.	First Business Meeting	Doc Brian Student Services Bldg. 104
1:00 p.m. - 5:00 p.m.	Poster Sessions	McEver Hallway
1:00 p.m. - 4:00 p.m.	Oral Presentations Physics & Geology Biomedical Science Terrestrial Ecology Invertebrate Zoology Chemistry I	McEver 202 McEver 162 McEver 206 McEver 210 McEver 204
2:00 p.m. - 2:30 p.m.	Refreshments	McEver Entrance
4:00 p.m. - 5:00 p.m.	Library & Technology Center Tour	Meet at Registration Desk
4:00p.m. - 5:00p.m.	Board of Governors Meeting of the Ouachita Biological Station	McEver 204
5:00 p.m. - 6:15 p.m.	Social Mixer*	Holiday Inn, Nebo Room
6:30 p.m. - 8:30 p.m.	Dinner <i>Welcome by Dr. Charles Robert Brown, President</i>	Chambers Cafeteria East Entrance
7:30 p.m. - 9:00 p.m.	Invited Guest Speaker <i>Dr. Dawn Bonnell, University of Pennsylvania</i>	Chambers Cafeteria
9:00 p.m. - 9:30 p.m.	Good Evening!*	

Saturday, 3 April 1999

7:30 a.m. - 10:00 am.	Registration	McEver Entrance
7:30 a.m. - 10:00 am.	Refreshments	McEver Entrance
8:00 a.m. - 11:00 am.	Oral Presentations Microelectronics & Eng. Aquatic Ecology Vertebrate Zoology Plant Ecology & Botany Chemistry II	McEver 202 McEver 162 McEver 206 McEver 210 McEver 204
11:00 a.m. - 11:30 a.m.	Judges Meeting	McEver 202
12:00 p.m. - 1:00 p.m.	Second Business Meeting & Award Presentations	McEver 162

*A shuttle bus will operate between McEver Hall and the Holiday Inn during these indicated times.

SECTION PROGRAMS

* Undergraduate **Graduate

ORAL PRESENTATIONS

Friday, April 2, 1999
Physics and Geology
 Location: McEver Hall, Room 202

Chairperson: Dr. Wilfred J. Braithwaite, University of Arkansas at Little Rock

Time	Topic
1:00	<u>Karen Abruckle</u> and Leo Carson Davis, Department of

Biological Sciences, Southern Arkansas University, Magnolia Arkansas, 71753, and Department of Physical Sciences, Southern Arkansas University, Magnolia, Arkansas, 71753.
PALEOZOIC FOSSILS FROM THE GULF COASTAL PLAIN OF ARKANSAS

1:15 Ben Waggoner, Department of Biology, University of Central Arkansas, Conway, AR 72035-0001. **MAZON CREEK-TYPE FOSSILS FROM THE MCALESTER FORMATION (PENNSYLVANIAN: DESMOINESIAN), JOHNSON COUNTY, ARKANSAS**

- 1:30 Felix Tendeku, Department of Mathematical Sciences & Technology, Box 4987, University of Arkansas at Pine Bluff, Pine Bluff, AR 71611. **STATISTICAL ANALYSIS OF CLIMATIC VARIABLES IN THE ARKANSAS-RED RIVER BASIN**
- 1:45 William Tyler, S. Khan, V. Blunt, V. Litman, W.M. Willingham & A.H. Chowdhury, Research Center, University of Arkansas, Pine Bluff, AR 71611. **CALIBRATION OF ZAHN CUP**
- 2:00 Christine A. Byrd, W. J. Braithwaite, Physics and Astronomy, University of Arkansas, Little Rock, AR 72204, E. S. Braithwaite, Science and Mathematics, Cedarville College, Cedarville, OH 45314, and J. G. Cramer, Department of Physics, University of Washington, Seattle, WA 98195. **IMPACT ON HBT OF TOTAL SEPARATION OF KAONS AND PIONS IN STAR'S TPC**
- 2:15 Frances Terry and M. Hemmati, Physical Science Department, Arkansas Tech University, Russellville, AR 72801. **ELECTRON SHOCK WAVES**
- 2:30 Break
- 2:45 Christine A. Byrd, W. J. Braithwaite, Physics and Astronomy, University of Arkansas, Little Rock, AR 72204, and E. S. Braithwaite, Science and Mathematics, Cedarville College, Cedarville, OH 45314. **ONLINE ACCEPTANCE AND EFFICIENCY MONITORING OF STAR'S MAIN TPC**
- 3:00 Mostafa Hemmati and Heath Spillers, Physical Science Department, Arkansas Tech University, Russellville, AR 72801. **EFFECTS OF SCIENCE CRUSADE IN ARKANSAS**
- 3:15 Eric George, Mostafa Hemmati, and Frances Terry, Physical Science Department, Arkansas Tech University, Russellville, AR 72801. **SPEED RANGE FOR BREAKDOWN WAVES**
- 3:30 Robert Fithen, Ronald E. Nelson, Arkansas Tech University, Russellville, AR, 72801. **WAVELETS FROM FINITE IMPULSE RESPONSE FILTERS**
- 3:45 R. Tut Campbell and Jeff Robertson, Physical Science Department, Arkansas Tech University, Russellville, AR, 72801. **A SUPERNOVA PATROL PROGRAM**
- 1:45 Leah Annulis, Heng Wang, Jianhu Du, and Dennis D. Black Department of Pediatrics, Arkansas Children's Hospital, Little Rock, AR 72202. **APOLIPOPROTEIN GENE EXPRESSION IN NEONATAL PIGLETS**
- 2:00 R. L. Jordan and W. L. Gray, Dept. of Microbiology and Immunology, University of Arkansas for Medical Sciences, Little Rock, AR 72205. **ANALYSIS OF CHANNEL CAT-FISH HERPESVIRUS TRANSCRIPTION**
- 2:15 Break
- 2:30 Michael White and Wayne L. Gray, Department of Microbiology and Immunology, University of Arkansas for Medical Sciences, Little Rock, AR 72205. **DNA SEQUENCE ANALYSIS OF THE SIMIAN VARICELLA VIRUS GENOME**
- 2:45 Donna Quimby, University of Arkansas at Little Rock, L.R., AR 72204; Kathy Hall, University of Arkansas, Fayetteville, AR 72703. **THE EFFECTS OF VARIED INTENSITY RESISTANCE TRAINING IN COMBINATION WITH WEIGHT-BEARING EXERCISE ON BONE ADAPTATIONS IN OVARIECTOMIZED AND SHAM OPERATED SPRAGUE DAWLEY RATS**
- 3:00 Paul D. Mixon, Ph.D., P.E., Department of Engineering, Arkansas State University. **HUMAN BIOLOGICAL EFFECTS RESULTING FROM EXPOSURE TO 60 Hz POWER LINES AND OTHER ELECTRICAL FACILITIES**
- 3:15 Tosha Belford, John Taylor, and S. Kirkconnell Biology Department, Arkansas Tech University, Russellville, AR 72801. **MICORBES IN DAY CARE CENTERS**

TERRESTRIAL ECOLOGY

Location: McEver Hall, Room 206

Chairperson: Dr. Chris Kellner, Arkansas Tech University

Biomedical Science

Location: McEver Hall, Room 162

Chairperson: Dr. Scott Kirkconnell, Arkansas Tech University

- | Time | Topic |
|------|---|
| 1:00 | <u>Garrett B. Sanford</u> ¹ , Thomas J. Lynch ¹ , James W. Hardin ² , and John Theus ³ . ¹ Dept. of Biology, University of Arkansas at Little Rock; Little Rock, AR 72204, ² John Wayne Cancer Center, Santa Monica, CA 90404, ³ University of Arkansas for Medical Sciences, Little Rock, AR 72204. STUDIES ON NFκB IN CULTURED MULTIPLE MYELOMA CELLS |
| 1:15 | <u>C.V. Ashburn</u> and W.L. Gray Dept. of Microbiology and Immunology, University of Arkansas for Medical Sciences, Little Rock, AR 72205. IDENTIFICATION OF THE SVV GLYCOPROTEIN L(gL) |
| 1:30 | Jonathan Whitlock, Center for Basic Neuroscience, UT Southwestern Medical Center, 5323 Harry Hines Blvd, Dallas, TX 75235-0111, Hendrix College, undergraduate affiliation |
| 1:00 | <u>Stanley E. Trauth</u> , Walter E. Meshaka, Jr., and Robert L. Cox, Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, Arkansas; Museum, Everglades National Park, 40001 SR 9336, Homestead, Florida 33034-6733; RLC (deceased). POPULATION STRUCTURE AND REPRODUCTION IN THE EASTERN NARROWMOUTH TOAD, GASTROPHRYNE CAROLINENSIS (ANURA: MICROHYLIDAE), IN NORTHEASTERN ARKANSAS |
| 1:15 | <u>Mary Katherine Razer</u> and Matthew D. Moran, Department of Biology, Hendrix College, 1600 Washington Avenue, Conway, AR 72032. BEHAVIORAL AND NUMERICAL RESPONSE TO RESOURCE MANIPULATION IN ARTHROPOD COMMUNITIES |
| 1:30 | <u>Elisa A. Horsch</u> and Matthew D. Moran, Hendrix College, Conway, AR 72032. TROPHIC CASCADE INITIATED BY CURSORIAL SPIDERS IN AN EARLY SUCCESSIONAL FIELD |

Secretary's Report

- 1:45 Jeffrey T. Briggler, James E. Johnson, and Dwayne D. Rambo, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701. **DEMOGRAPHICS OF A RINGED SALAMANDER (*AMBYSTOMA ANNULATUM*) BREEDING POPULATION DURING MIGRATION**
- 2:00 Thomas Nelson, Department of Biological Sciences, Eastern Illinois University, Charleston, IL 61920. **EVALUATION OF THREE TYPES OF FOREST OPENINGS FOR WILD TURKEYS**
- 2:15 Break
- 2:30 Shawn M. Cochran, J. D. Wilhide and V. R. McDaniel, Department of Biological Sciences, Arkansas State University, State University, 72467. **ROOSTING AND HABITAT USE OF RAFINESQUE'S BIG EARED BAT IN A BOTTOMLAND HARDWOOD FOREST ECOSYSTEM**
- 2:45 Paul T. Hoover, Janet Lanza, Brian Wells, Samuel Nelson, Biology Department, University of Arkansas at Little Rock, 2801 South University, Little Rock, Arkansas 72204. **THE EFFECTS OF VARYING AMINO ACID CONCENTRATIONS ON REPRODUCTIVE SUCCESS BY CABBAGE WHITE BUTTERFLIES**
- 3:00 Janet Lanza, Biology Department, University of Arkansas at Little Rock, 2801 South University, Little Rock, Arkansas 72204. **OPEN-ENDED INQUIRY-BASED LABORATORIES IN FIRST-YEAR BIOLOGY**
- 3:15 Jimmy D. Winter and Janet Lanza, Graduate Institute of Technology, University of Arkansas at Little Rock, 2801 South University, Little Rock, Arkansas 72204. **EXPERIENCING RESEARCH AND LEARNING INQUIRY-BASED TEACHING METHODS THROUGH THE ARKANSAS STRIVE PROGRAM**

INVERTEBRATE ZOOLOGY

Location: McEver Hall, Room 210

Chairperson: Dr. Gerald E. Walsh, 9 Yocum Road, Rogers, AR 72756

- | Time | Topic |
|------|---|
| 1:00 | <u>Heidi Dukat</u> and Dan Magoulick, Department of Biology, University of Central Arkansas, Conway, Arkansas 72035. EFFECTS OF PREDATION ON HABITAT SELECTION BY TWO SPECIES OF STREAM-DWELLING CRAYFISH, <i>Orconectes marchandi</i> AND <i>Cambarus hubbsi</i> |
| 1:15 | * <u>Michael Buck</u> , Dr. Robert Engelken, C. Workman, A Thapa, and C. Edrington, Department of Engineering, Arkansas State University, State University (Jonesboro), AR 72467. INDIUM-TELLURIUM COMPOUNDS ELECTROPLATED FROM MOLTEN SALT BATHS. |
| 1:30 | <u>Camille Flinders</u> and Dan Magoulick, Department of Biology, University of Central Arkansas, Conway, Arkansas 72035. HABITAT PARTITIONING IN A LOTIC CRAYFISH COMMUNITY IN THE OZARK PLATEAUS: THE ROLE OF ENVIRONMENTAL VARIABLES |
| 1:45 | Gianetta L. Adams, <u>James E. Johnson</u> , and John V. Brahana, U.S. Geological Survey, Department of Biological Sciences and Department of Geology, University of Arkansas, Fayetteville, AR 72701. ARKANSAS RANGE EXTENSION FOR THE BRISTLY CAVE CRAYFISH, <i>CAM-</i> |

BARUS SETOSUS FAXON (DECAPODA, CAMBARI-DAE)

- 2:00 George L. Harp, Dept. of Biological Sciences, Arkansas State University, State University, AR 72467. **ADDITIONS TO THE ODONATE (DRAGONFLY) LISTS FOR SAN LUIS POTOSI AND TAMAULIPAS STATES, MEXICO**

2:15 Break

- 2:30 J. M. Turbeville and Jeffrey T. Briggler, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701. **THE FIRST RECORD OF THE LEECH *MACROBDELLA DIPLLOTERTIA* (MEYER, 1975) (ANNELIDA: CLITELLATA) IN ARKANSAS AND PRELIMINARY OBSERVATIONS ON ITS NATURAL HISTORY**

- 2:45 Brian F. Coles and Gerald E. Walsh, 4202 Scottie Smith Drive, Jefferson, AR 72079 and 9 Yocum Road, Rogers, AR 72756. **A REVISED LIST OF ARKANSAS LAND MOLLUSCA WITH NOTES ON THE GEOGRAPHIC DISTRIBUTION OF SPECIES**

CHEMISTRY I

Location: McEver Hall, Room 204

Chairperson: Dr. Franklin D. Hardcastle, Arkansas Tech University

- | Time | Topic |
|------|---|
| 1:00 | <u>Victor M. Blunt</u> , A. H. Chowdhury, S. Khan, V. Litman and W. M. Willingham, Department of Chemistry & Physics, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601. CHEMICAL ANALYSIS OF SMOKE BOMB MIXTURES |
| 1:15 | <u>Dedric Hayes</u> and Victor M. Blunt, Department of Chemistry & Physics, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601. QUANTITATIVE AND QUALITATIVE ANALYSIS OF LACTOSE AND POTASSIUM CHLORATE IN SMOKE BOMB MIXTURES |
| 1:30 | <u>Franklin D. Hardcastle</u> , Department of Physical Science, McEver Hall, Arkansas Tech University, Russellville, Arkansas 72801. MOLECULAR STRUCTURES OF TITANATES BY RAMAN SPECTROSCOPY |
| 1:45 | <u>Muhammad H. Zaman</u> , John P. Graham and Franklin D. Hardcastle, Department of Physical Science, McEver Hall, Arkansas Tech University, Russellville, Arkansas 72801. RAMAN SPECTROSCOPY OF PHOSPHATES |
| 2:00 | <u>Lex Mitchell</u> and Franklin D. Hardcastle, Department of Physical Science, McEver Hall, Arkansas Tech University, Russellville, Arkansas 72801. INTERPRETING THE RAMAN SPECTRA OF IRON OXIDE CORROSION PRODUCTS |
| 2:15 | Break |
| 2:45 | <u>John P. Graham</u> , Department of Physical Science, McEver Hall, Arkansas Tech University, Russellville, Arkansas 72801. STRUCTURE AND BONDING OF A NOVEL CHELATING CARBENE COMPLEX |
| 3:00 | <u>D. Gipson</u> , Dr. R. Engelken, M. Buck, C. Edrington, and A. Thapa, Department of Engineering, Arkansas State University, P.O. Box 1740, State University, Arkansas 72467. MINIMALLY HAZARDOUS AND ENVIRONMENTALLY IMPACTIVE METALLIC ALLOY AND SEMI- |

CONDUCTING OXIDE FILMS OF Mo, W, Fe, AND/OR Ni ELECTROPLATED FROM AQUEOUS ELECTROLYSES

3:15 A. Thapa, Dr. R. Engelken, C. Edrington, M. Buck and D. Gipson, Department of Engineering, Arkansas State University, P.O. Box 1740, State University, Arkansas 72467. **CHEMICAL PRECIPITATION DEPOSITION OF INDIUM SULFIDE AND OTHER METAL SULFIDE FILMS FROM A NEW LOW pH AQUEOUS, THIOUREA/THIOACETAMIDE-FREE BATH WITH REDUCED HAZARDS AND ENVIRONMENTAL IMPACT**

3:30 C. Edrington, Dr. R. Engelken, M. Buck, A. Thapa and D. Gipson, Department of Engineering, Arkansas State University, P.O. Box 1740, State University, Arkansas 72467. **IMPROVEMENTS IN PHOTOCONDUCTANCE OF EVAPORATED INDIUM (III) SULFIDE FILMS BY ANNEALING**

ORAL PRESENTATIONS

Saturday, April 3, 1999

MICROELECTRONICS AND ENGINEERING

Location: McEver Hall, Room 202

Chairperson: Dr. Wilfred J. Braithwaite, University of Arkansas at Little Rock

Time Topic

8:15 Aslam H. Chowdhury, S. Khan, V. Blunt, V. Litman and W. M. Willingham, Research Center, University of Arkansas, Pine Bluff, AR 71611. **SETTLING RATE BY OPTICAL METHOD**

8:30 Clayton Workman,* Dr. Phillipe Ballet, Dr. Jay Smathers, Dr. Greg Salamo and Dr. Hameed Naseem. **A COMPARISON OF THE ATOMIC FORCE MICROSCOPY (AFM) AND SCANNING TUNNELING MICROSCOPY (STM) OF SELF-ASSEMBLED InAs QUANTUM DOTS ON GaAs AND AIAs**

8:45 D. W. Bullock, H. Yang, V. P. LaBella, Z. Ding and P. M. Thibado, Physics Department, University of Arkansas, Fayetteville, AR 72701. **ATOMIC CONTROL OF SEMICONDUCTOR STRUCTURES**

9:00 Jedediah J. Young, Nick Rosser, and Ajay P. Malshe, MRL, Department of Mechanical Engineering, University of Arkansas, Fayetteville, AR 72701. **MICROELECTRONICALLY INTEGRATED MULTIFUNCTIONAL INFLATABLE MICROCOMMUNICATIONS (MIMICs): THE NEXT GENERATION OF INFLATABLES FOR SPACE APPLICATIONS**

9:15 Break

9:45 Kaneez E. Banu, Biao Huang, and Simon S. Ang, University of Arkansas, High-Density Electronics Center, 600 W. 20th, Fayetteville, AR 72701. **MICROMACHINED HEAT SINK FOR INTEGRATED CIRCUITS COOLING**

10:00 Chris Hearn, Biao Huang, and Simon S. Ang, University of Arkansas, High-Density Electronics Center, 600 W. 20th, Fayetteville, AR 72701. **MICROELECTROMECHANICAL SYSTEMS FABRICATION TECHNIQUES**

10:15 Dr. Andrew B. Wright, University of Arkansas at Little Rock, Department of Applied Science, 2801 South University, Little Rock, AR 72204. **EQUATIONS OF MOTION FOR 4 DEGREE OF FREEDOM LEG FOR WALKING ROBOT**

10:30 Steve Farmer and Dr. Bob Sims P.E., University of Arkansas at Little Rock (UALR), Department of Applied Science, Little Rock, AR 72204. **IMPLEMENTING THE HART COMMUNICATIONS PROTOCOL IN CONTROL VALVE APPLICATIONS**

10:45 W. K. Chok and R. A. Sims, Applied Science Department, University of Arkansas at Little Rock, 2801 S. University Ave., Little Rock, AR 72204. **ION CURRENT IN THE ELECTROSTATIC APPLICATION OF AUTOMOTIVE CLEAR COAT POWDER**

AQUATIC ECOLOGY

Location: McEver Hall, Room 162

Chairperson: Dr. Joe Stoeckel, Arkansas Tech University

Time Topic

8:00 Denver Dunn and George L. Harp (Arkansas State University Dept. of Biological Sciences, State University, Arkansas 72467). **DEGREE OF COTTUS PREDATION ON TROUT EGGS/FRY IN THE BULL SHOALS LAKE COLD TAILWATERS**

8:15 Shawn W. Hodges, Charles J. Gagen, Fisheries and Wildlife Biology Program, Arkansas Tech University, Russellville, AR 72801. **EFFECT OF LOW SUMMER STREAMFLOW ON SMALLMOUTH BASS MOVEMENTS IN CROOKED CREEK**

8:30 Daniel Ward, Denver Dunn, Hilary Worley, Martin Ruane, Vernon Hoffman, Grace Troutman, and Stanley Trauth (Arkansas State University Dept. of Biological Sciences, State University, Arkansas 72467). **THE FIRST REPORT OF LAMPETRA APPENDIX (DEKAY) FROM THE BLACK RIVER DRAINAGE SYSTEM OF ARKANSAS**

8:45 Thomas M. Buchanan and Josh Nichols, Department of Biology, Westark College, Fort Smith, AR 72913, Don Turman, Colton Dennis, Stuart Wooldridge, and Brett Hobbs, Arkansas Game & Fish Commission, 2 Natural Resources Drives, Little Rock, AR 72205. **OCCURRENCE AND REPRODUCTION OF THE ALABAMA SHAD, ALOSA ALABAMAE, IN THE OUACHITA RIVER SYSTEM OF ARKANSAS**

9:00 Richard Grippio, Bobby Bennett, Department of Biological Sciences, and Randel Cox, Department of Chemistry and Physics, Arkansas State University, State University, AR 72467. **COMPARISON OF ENVIRONMENTAL ASSESSMENTS OF HARBOR EXPANSIONS ON THE MISSISSIPPI RIVER**

9:15 Break

9:30 John D. Rickett, Biology Department, U. A. L. R., 2801 S. University, Little Rock, AR 72204. E.P. (Perk) Floyd, 2423 E. Woodson Lateral, No. 35, Hensley, AR 72065. **MORPHOMETRY, WATERSHED CHARACTERISTICS AND WATER QUALITY OF FERGUSON LAKE, SALINE COUNTY, ARKANSAS**

Secretary's Report

- 9:45 Andi Dickens and Scott Kirkconnell Biology Department, Arkansas Tech University, Russellville, AR 72801. **COLIFORM EVALUATION OF RIVER VALLEY WATERWAYS**
- 10:00 Eric Anderson and Scott Kirkconnell, Biology Department, Arkansas Tech University, Russellville, AR 72801. **EFFECTS OF ANO EFFLUENT ON LAKE DARDANELLE MICROFLORA**
- 10:15 Jennifer Smith, Ana Ghanem, Missy Elzey and Thomas S. Soerens,* Department of Civil Engineering, University of Arkansas, 4190 Bell Engineering Center, Fayetteville, AR 72701. **LOCATING NAPL's IN GROUND WATER USING PARTITIONING FLUORESCENT DYES**
- 10:30 Yian-Mei Lo, Thomas S. Soerens,* Marc A. Nelson, Department of Civil Engineering, University of Arkansas, 4190 Bell Engineering Center, Fayetteville, AR 72701. **OPTIMUM STORM SAMPLING OF CALCULATION OF NUTRIENT LOADS IN MOORE'S CREEK AND THE ILLINOIS RIVER**

VERTEBRATE ZOOLOGY

Location: McEver Hall, Room 206

Chairperson: Dr. Tom Nupp, Arkansas Tech University

- | Time | Topic |
|-------------|---|
| 8:00 | <u>Stanley E. Trauth</u> and J. D. Wilhide, Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, AR 72467-0599. STATUS OF THREE PLETHODONTID SALAMANDERS (GENUS <i>PLETHODON</i>) FROM THE OUACHITA NATIONAL FOREST OF SOUTHWESTERN ARKANSAS |
| 8:15 | <u>Douglas A. James</u> ¹ and Christopher J. Kellner ² , ¹ Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701 and ² Department of Biology, Arkansas Tech University, Russellville, AR 72801. STATUS OF THE CERULEAN WARBLER IN ARKANSAS IN THE 1990s |
| 8:30 | <u>Peta Elskan-Lacy</u> , Amy M. Wilson, James H. Peck and Gary A. Heidt, Dept. of Biology, UALR, Little Rock, AR 72204. ARKANSAS GRAY FOX FUR PRICE-HARVEST MODEL REVISITED |
| 8:45 | <u>Wayne E. Thogmartin</u> , James E. Johnson, Bradley A. Schaeffer, and Camille C. Ciriano Arkansas Cooperative Fish and Wildlife Research Unit, U.S. Geological Survey, Biological Resources Division, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701. SURVEY OF DISEASES IN WILD TURKEYS IN ARKANSAS |
| 9:00 | <u>Josie H. Dickens</u> , David W. Clark, Steffany White, and Gary A. Heidt, Department of Biology, UALR, Little Rock, AR 72204. SURVEY OF MEDIUM AND LARGE MAMMALS IN AN URBAN PARK (MURRAY PARK, LITTLE ROCK, AR) |
| 9:15 | Break |
| 9:30 | <u>Theo Witsell</u> , Gary A. Heidt, and Parker L. Dozhier, Dept. of Biology, UALR, Little Rock, AR 72204, and Hot Springs, AR (PLD). DOCUMENTED OCCURRENCE OF THE MOUNTAIN LION (<i>FELIS CONCOLOR</i>) IN ARKANSAS |
| 9:45 | Keith Sutton ¹ and <u>David Jamieson</u> ² ¹ Arkansas Game and |

Fish Commission, 2 Natural Resources Drive, Little Rock, AR 72205. ²Arkansas State University-Newport, Department of Biological Science, 7648 Victory Boulevard, Newport, AR 72112. **RESULTS OF AN ARKANSAS WILDLIFE MAGAZINE READER SURVEY CONCERNING REINTRODUCTION OF THE FLORIDA PANTHER (*FELIS CONCOLOR CORYI*) IN ARKANSAS**

- 10:00 Kimberly G. Smith, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701, Cindy Osborne, Arkansas Natural Heritage Commission, Little Rock, AR 72201. **1999 REPORT OF THE ARKANSAS AVIAN VIABILITY ASSESSMENT COMMITTEE**

PLANT ECOLOGY & BOTANY

Location: McEver Hall, Room 210

Chairperson: Dr. Gary Tucker

- | Time | Topic |
|-------------|---|
| 8:00 | <u>Timothy A. Golden</u> and Daniel L. Marsh, Department of Biology, Henderson State University, Arkadelphia, AR 71923. VARIATIONS IN <i>SPHAEROCARPOS</i> (MARCHANTIOPSIS) IN ARKANSAS |
| 8:15 | <u>Jared W. Kyzer</u> and Daniel L. Marsh, Department of Biology, Henderson State University, Arkadelphia, AR 71923. OCCURRENCES OF <i>PETALOPHYLLUM</i> FOSSOMBRONACEAE IN THE INTERIOR HIGHLANDS OF ARKANSAS |
| 8:30 | Casey Jones and Renn Tumlison, Department of Biology, Henderson State University, Arkadelphia, AR 71923. WOODY VEGETATION OF A HILLTOP ISLAND IN DEGRAY LAKE |
| 8:45 | Anne A. Grippo ¹ , Yan Xie ² , Benjamin L. Rougeau ² , William V. Wyatt ² , Departments of ¹ Biological Sciences and ² Chemistry & Physics, Arkansas State University, State University, AR 72467. ANALYSIS OF PHYTOESTROGENS BY HIGH PRESSURE LIQUID CHROMATOGRAPHY |
| 9:00 | <u>Larson, Katherine C.</u> University of Central Arkansas, Conway, AR 72035. FORAGING BEHAVIOR OF HONEY-SUCKLE VINES: CONTRAST BETWEEN THE INVASIVE <i>LONICERA JAPONICA</i> AND ITS NATIVE CONGENER <i>L. SEMPERVIRENS</i> |
| 9:15 | Break |
| 9:30 | <u>Linh V. Hoang</u> ¹ , ¹ Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, AR 72467-0599. THE POPULATION STRUCTURE OF SOLIDAGO RIDDELL II (RIDDELL'S GOLDENROD: ASTERACEAE) AT ROCK CREEK NATURAL AREA IN ARKANSAS AND THROUGHOUT ITS RANGE IN NORTH AMERICA |

CHEMISTRY II

Location: McEver Hall, Room 204

Chairperson: Dr. Michael J. Panigot

- | Time | Topic |
|-------------|---|
| 9:00 | <u>Stanley L. Chapman</u> and William Teague, University of Arkansas, P.O. Box 391, Little Rock, AR 72203. CHANGES |

IN SOIL CHEMISTRY BENEATH EXPOSED POULTRY HOUSE PADS AND MANURE STORAGE AREASUniversity of Arkansas at Pine Bluff, Pine Bluff, Arkansas 71601. **THE CURRENT STATUS OF THE PLATINUM COORDINATION COMPLEXES IN CANCER CHEMOTHERAPY**9:15 M. A. Miah, Department of Chemistry and Physics, P.O. Box 4941, University of Arkansas at Pine Bluff, Pine Bluff, AR 71611. **ARSENIC CONTAMINATION IN BANGLADESH**9:30 Paul Nave and Mark Draganjac, Department of Chemistry and Physics, Arkansas State University, State University, AR 72467; A. W. Cordes and Tosah Barclay, Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701. **LIGAND SUBSTITUTION REACTIONS OF [CuRu(PPh₃)(tht)₂]OTf. MOLECULAR STRUCTURE OF [CpRu(PPh₃)(pms)₂]OTf x 3/4C₂H₄Cl₂, pms = pentamethylene sulfide.**10:00 Johnetta Price and Victor M. Blunt, Department of Chemistry & Physics, University of Arkansas at Pine Bluff, AR 71601. **SYNTHESIS AND CHARACTERIZATION OF CALCIUM (II) ADAMANTANEDICARBOXYLATE**10:15 Brian D. Abbott, Robert Allen, and Robin D. Rogers, Department of Physical Sciences, Arkansas Tech University, Russellville, AR 72801. **ROOM TEMPERATURE IONIC LIQUIDS AND THEIR USE IN LIQUID/LIQUID EXTRACTIONS**10:30 Michael Shane Greene, Rose M. McConnell, and Walter E. Godwin, School of Mathematics & Natural Sciences, University of Arkansas at Monticello, Monticello, Arkansas 71657. **PLANAR COPOLYMERS OF FURAN, THIOPHENE, AND PYRROLE: A MOLECULAR MODELING STUDY****POSTER SESSIONS**Friday, April 2, 1999
Location: McEver HallMichael J. Panigot, Kevin Lawrence, and Laura Benton. **APPROACHES TO THE SYNTHESIS OF STEREOSELECTIVELY BETA-DEUTERATED LEUCINE AND TRYPTOPHAN.**Leslie Parsley and Rory A. Roberts, Arkansas Tech University, Russellville, AR 72801. **INDUCING WING-LIKE FLUTTER IN A WIND TUNNEL.**Matthew W. Nix and Thomas M. Walker, Department of Biology, University of Central Arkansas, Conway, AR 72035-0001. **MACROPHAGES ACTIVATED BY PACLITAXEL EXPRESS CD40 AND CD80.**Thomas M. Walker, Department of Biology, University of Central Arkansas, Conway, AR 72035. **DECREASED VIABILITY OF PACLITAXED-ACTIVATED MACROPHAGES OCCURS THROUGH NITRIC OXIDE DEPENDENT AND INDEPENDENT MECHANISMS.**Michael D. VanPelt, LaTonya Green and Clifton Orr, Department of Biology, University of Arkansas at Pine Bluff, Pine Bluff, Arkansas 71611. **SULFORHODAMIEN B (SRB) COLORIMETRIC CYTOTOXICITY ASSAY FOR MEASURING ANTICANCER EFFECTS.**Sherry Putterbaugh and K. C. Larson, Department of Biology, University of Central Arkansas, Conway, AR 72035. **SEED GERMINATION AND SEEDLING RECRUITMENT OF LONICERA JAPONICA, JAPANESE HONEYSUCKLE.**LaTonya Green, Michael D. VanPelt, Clifton Orr, Department of Biology,