

2017

Keynote Address and Meeting Program

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KEYNOTE ADDRESS

Arkansas streams will play a pivotal role in our freshwater future.

**By Dr. Sally Entrekin
Department of Biology, University of Central Arkansas**



Dr. Entrekin is an environmental scientist; she earned her BS in Biology at Georgia Southwestern University, and MS in Entomology from the University of Georgia, and a PhD in Biology from the University of Notre Dame. Dr. Entrekin has been a faculty member at UCA since 2008. The basic question addressed by Dr. Entrkin's lab is: "How do natural and human disturbances interact to influence aquatic community composition and function." Dr. Entrekin is widely published and has made many presentations at national and regional meetings. Recent work has included stream ecology in the area of the Fayetteville Shale. This work includes examining how rapid land use changes, such as natural gas extraction and urbanization, alter associated freshwater ecosystems, and how interactions among common and emerging watershed activities change stream structure and functions.

SECTION PROGRAMS ORAL PRESENTATIONS

(Only the presenter's name was available at time of printing)

ORAL SESSIONS: FRIDAY 1:00-5:30

BIOLOGICAL SCIENCES - MEDICINE AND MICROBIOLOGY ROOM CCCS 207

Chair: A. Mukherjee

1:00

COLLAGEN INCREASES TUMORIGENICITY OF PAPILLARY THYROID CANCER CELLS HARBORING BRAFV600E MUTATIONS

Anna Sharabura. Hendrix College

1:15

FOCAL ADHESION KINASE DISPLAYS ALTERED REGULATION IN PAPILLARY THYROID CANCER

Ben Zamzow. Hendrix College

1:30

THE USE OF LIGATION INDEPENDENT CLONING TO GENERATE ESCHERICHIA COLI CAPABLE OF PRODUCING CENTRUROIDES VITTATUS SCORPION ÎŽμ-TOXINS NA681 AND NA682 TO ALLOW FOR FURTHER ANALYSIS OF PHYSIOLOGICAL AND MEDICAL SIGNIFICANCE

David Williams. Arkansas Tech University

1:45

VALIDATION OF METHODS TO IMPROVE THE USE OF P19 CELLS AS A MODEL OF NEURONAL DIFFERENTIATION

Wallace Williamson. Arkansas Tech University

2:00

RELATIVE GENE EXPRESSION STUDY ON CENTRUROIDES VITTATUS INVESTIGATING SODIUM TOXIN GENE ACTIVITY

Aimee Bowman. Arkansas Tech University

2:15

USING ESCHERICHIA COLI TO GENERATE SCORPION ÎŽ2-TOXINS, AS SEEN IN CENTRUROIDES VITTATUS, TO ALLOW FOR FURTHER STRUCTURAL AND PHYSIOLOGICAL ANALYSIS

Jacob Pinkerton. Arkansas Tech University

2:30

MITOCHONDRIA MORPHOLOGY AND ROTENONE

Hunter Scharbor. University of Central Arkansas

2:45

OBSERVING FSZ-B'S FUNCTION IN DICTYOSTELIUM DISCOIDEUM MITOCHONDRIAL DYNAMICS

Pristine Pittman. University of Central Arkansas

CHEMISTRY

ROOM CCCS 115

Chair: A. Harrington

1:00

FLUORESCENT INHIBITOR OF SYSTEM Xc- Alan Jackson. Arkansas Tech University

1:15

BOND LENGTH AND BOND VALENCE FOR TUNGSTEN - OXYGEN AND TUNGSTEN - SULFUR BONDS Ruth Lykins. Arkansas Tech University

1:30

ATMOSPHERIC PHOTOCHEMISTRY STUDIES RELATED TO SATURN'S MOON TITAN Connor Purvis. Harding University

1:45

ANALYSIS OF SURFACE WATERS IN SEARCY, ARKANSAS Jade Toth. Harding University

2:00

BOND LENGTH AND BOND VALENCE RELATIONSHIP OF CHROMIUM OXIDES, CHROMIUM SULFIDES, MOLYBDENUM OXIDES, AND MOLYBDENUM SULFIDES

Jordan Labrecque. Arkansas Tech University

2:15

PHOTOCATALYTIC STERILIZATION OF AQUEOUS SOLUTIONS

David Williams. Arkansas Tech University

2:30

CARBON-CARBON, CARBON-OXYGEN, CARBON- NITROGEN, AND CARBON-HYDROGEN BOND VALENCE -LENGTH RELATIONSHIPS

Franklin Hardcastle. Arkansas Tech University

2:45

SEARCHING FOR PHARMACEUTICALS AND PERSONAL CARE PRODUCTS IN WASTEWATER IN SEARCY, ARKANSAS

Natalie Whitlock. Harding University

PHYSICS

ROOM CCCS 101

Chair: M. Hemmati

1:00

SUPPRESSION OF RADIATION-INDUCED CHROMOSOME DAMAGE BY GT3 AND THE ROLE OF MICROGRAVITY

Calla Bassett. Southern Arkansas University

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1:15
A SIGN-CHANGING INTERACTION BETWEEN DARK ENERGY AND MATTER

Jazmin Urioste. Arkansas Tech University

1:30
IONIZATION RATE FOR BREAKDOWN WAVES WITH A SIGNIFICANT CURRENT BEHIND THE WAVE FRONT

Jesse Griffiths. Arkansas Tech University

1:45
OPTICAL AND DISPERSION PARAMETERS OF PMMA DOPED BY INDIUM SALT

Sami Salman Chiad. Al-Mustansaryah University

2:00
DESIGN OF CENTRAL RECEIVER SOLAR THERMAL CONCENTRATOR

Alaa H. Shneishil. Al-Mustansaryah University

2:15
A NEW RELATION BETWEEN SPIRAL ARM PITCH ANGLES (P) AND THE BULGE LUMINOSITY

Ismaeel Al-Baidhany. Al-Mustansaryah University

BIOLOGICAL SCIENCES AQUATICS

ROOM CCCS 105

Chair: A. Odendaal

1:00
SPATIO-TEMPORAL DYNAMICS OF FISH ASSEMBLAGE STRUCTURE AFTER WATERSHED ALTERATION IN THE SALINE RIVER, ARKANSAS

Aaron Burgad. University of Central Arkansas

1:15
ENVIRONMENTAL DNA VS. TRADITIONAL SAMPLING: A CASE STUDY USING THE FEDERALLY THREATENED LEOPARD DARTER, *PERCINA PANTHERINA*

Taylor Lee. Arkansas State University

1:30
GENETIC STRUCTURE AND DIVERSITY OF DISJUNCT POPULATIONS OF RAINBOW DARTERS (*ETHEOSTOMA CAERULEUM*) AND SOUTHERN REDBELLY DACE (*CHROSOMUS ERYTHROGASTER*) THROUGHOUT THE MISSISSIPPI CORRIDOR.

Kyle Dineen. Arkansas State University

1:45
HISTORIC CHANGES IN FISH ASSEMBLAGE PATTERNS IN THE LITTLE MISSOURI RIVER, ARKANSAS

Michelle Furr. University of Central Arkansas

2:00
SPATIOTEMPORAL POPULATION DYNAMICS OF THE CADDO MADTOM (*NOTURUS TAYLORI*)

Brittany McCall. Arkansas State University

2:15
FISH-HABITAT ASSOCIATIONS IN THE KINGS RIVER, ARKANSAS

Chelsey Sherwood. University of Central Arkansas

2:30
THE ANALYSIS OF COLIFORM BACTERIA IN LAKE COLUMBIA, AR.

Kara O'Neal. Southern Arkansas University

2:45
COMPONENTS OF URBANIZATION AND URBAN PROXIMITY IDENTIFY THREATS TO STREAM WATER QUALITY

Stephanie Stoughton. University of Central Arkansas

BIOLOGICAL SCIENCES – GENERAL

ROOM CCCS 207

Chair: J. Kelly

3:30
DISEASE INTRODUCTION BY ABORIGINAL HUMANS IN NORTH AMERICA AND THE PLEISTOCENE EXTINCTION

Zachary Nickell. Hendrix College

3:45
THE USE OF COLOR AS A STATUS SIGNAL IN THE PRAIRIE LIZARD, *SCELOPORUS CONSOBRINUS*

Christopher Robinson. University of Central Arkansas

4:00
WHO CITES WHOM? COMMUNICATION INSIGHTS FROM A BIBLIOMETRIC ANALYSIS OF INVASION AND BIOLOGICAL CONTROL LITERATURE

Ashley Schulz. Arkansas State University

4:15
ECOSYSTEM SERVICES OF THE BIG BEND REGION OF THE CHIHUAHUAN DESERT

Helena Abad. Hendrix College

4:30
BIODIVERSITY IN BIOCUBES

Amanda Brooks. Ouachita Baptist University

4:45
A FRACKING RACKET: DO BIRDS CHANGE THE WAY THEY SING WHEN EXPERIENCING CHRONIC NOISE FROM SHALE GAS EXTRACTION

Claire Turkal. Harding University

ENGINEERING & COMPUTER SCIENCE

ROOM CCCS 115

Chair: C. Frederickson

3:30
GENERATIVE ANATOMY MODELLING LANGUAGE (GAML)

Doga Demirel. University of Arkansas at Little Rock

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3:45
COMPUTING WIND FIELD CLOSE TO THE GROUND USING CFD IN A TORNADO CHAMBER.

Damaso Dominguez. University of Arkansas

4:00
SIMULATING FOODBORNE PATHOGENS IN POULTRY PRODUCTION AND PROCESSING TO DEFEND AGAINST INTENTIONAL CONTAMINATION

Silas Lankford. University of Arkansas

4:15
CALCULATION OF THE WIDTH AND PERIOD OF TORNADOS FROM GOOGLE EARTH DATA AND THERELATIONSHIP BETWEEN THE TORNADO'S PERIOD AND THE WIND SPEED

Mohammadhossein Kashefzadeh. University of Arkansas

4:30
NANOSTRUCTURES FOR INFRARED LINEAR POLARIZERS

Marzia Zaman. University of Arkansas

4:45
AN ACOUSTIC-BASED APPROACH FOR CONDITION MONITORING OF PIPES

Mitchell Collins. Arkansas Tech University

BIOLOGICAL SCIENCES- INVERTEBRATES
ROOM CCCS 105
Chair: D. Barron

3:30
A DESCRIPTION OF VARIATION IN FECUNDITY BETWEEN TWO POPULATIONS OF WOLF SPIDER *RABIDOSA RABIDA* IN SEARCY ARKANSAS USING BROOD SIZE MEASUREMENTS

Brandon Hogland. Harding University

3:45
SEASONAL CHANGES OF ARTHROPOD COMMUNITY STRUCTURE IN INACTIVE BISON WALLOWES

Sofia Varriano. Hendrix College

4:00
A FIRST LOOK INTO THE MICROBIOME OF *RABIDOSA RABIDA*, A WOLF SPIDER IN SEARCY, ARKANSAS

Patricia Rivera. Harding University

4:15
MIGRATION DYNAMICS OF OHIO SHRIMP, *MACROBRACHIUM OHIONE*, IN ARKANSAS

Geoffry Spooner. University of Central Arkansas

4:30
DISTRIBUTION, HABITAT, AND LIFE HISTORY ASPECTS OF THE SHRIMP CRAYFISH, *FAXONIUS LANCIFER* (HAGEN) (DECAPODA: CAMBARIDAE) IN ARKANSAS

Chris McAllister. Eastern Oklahoma State College-Idabel

4:45
CRAYFISH CHANGES TO THE ARKANSAS WILDLIFE ACTION PLAN

Brian Wagner. Arkansas Game and Fish Commission

BIOLOGICAL SCIENCES- BOTANY
ROOM CCCS 211
Chair: A. Willyard

3:30
TRANSCRIPTOME ANALYSIS FOR THREE *ERIGERON* (ASTERACEAE) GENOTYPES DIFFERING IN MODE OF REPRODUCTION

James Vire. University of Central Arkansas

3:45
MITOCHONDRIAL LINEAGES OF *PINUS* SUBSECTION PONDEROSAE TO RESOLVE THE RELATIONSHIP OF SPECIES NAMED IN THE UNITED STATES AND MEXICO

Mason Sifford. Hendrix College

4:00
DETERMINING THE VALIDITY OF THE SPECIES *PINUS WASHOENIS* IN THE WESTERN UNITED STATES

Samuel Lockhart. Hendrix College

4:15
DETERMINING RECENT HYBRIDIZATION OF PINYON PINES IN A ZONE OF SYMPATRY IN NORTHERN ARIZONA

Katie Dobbins. Hendrix College

4:30
SEED DISPERSAL OF *DIOSPYROS VIRGINIANA* IN THE PAST AND THE PRESENT: EVIDENCE FOR A GENERALIST EVOLUTIONARY STRATEGY

Taylor Stone. Hendrix College

4:45
SEED DISPERSAL IN OSAGE ORANGE (*MACLURA POMIFERA*) BY SQUIRRELS (*SCIURUS* SPP.)

Sophie Katz. Hendrix College

GEOSCIENCE
ROOM CCCS 101
Chair: J. Allender

3:30
LATE MISSISSIPPIAN (CHESTERIAN) SHALLOWING-UPWARD, EUSTATIC CYCLICITY REFLECTED BY TAPHONOMY OF PRESERVED AMMONOID CEPHALOPODS, NORTHERN ARKANSAS

Riley Dickson. University of Arkansas, Fayetteville

3:45
LITHOLOGIC CHARACTER, SEQUENCE AND DIAGENETIC HISTORY OF LOWER MISSISSIPPIAN TRIPOLITIC CHERT, NORTHERN ARKANSAS AND SOUTHERN MISSOURI

Sydney McKim. University of Arkansas, Fayetteville

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4:00
LOWER MISSISSIPPIAN, TRIPOLITIC CHERT FORMED FROM HYDROTHERMALLY EMPLACED SILICA, AND ITS POSSIBLE RELATIONSHIP TO THE TRI-STATE LEAD-ZINC MINING DISTRICT

Jonathan Chick. University of Arkansas, Fayetteville

4:15
ESTABLISHING A TRAIL VISITATION SURVEY METHOD FOR THE NATIONAL OUACHITA RECREATION TRAIL

Emily Roberts. University of Central Arkansas

4:30
TECTONO-STRATIGRAPHIC AND SEQUENCE AND STRATIGRAPHIC SUCCESSIONS, OZARK SHELF, TRI-STATE REGION, SOUTHERN MIDCONTINENT.

Elvis Bello. University of Arkansas, Fayetteville

4:45
SIGNIFICANCE OF THE MIDDLE MISSISSIPPIAN PALEOKARST SURFACE, WESTERN OZARK UPLIFT, ARKANSAS, KANSAS AND OKLAHOMA

Walter Manger. University of Arkansas, Fayetteville

ORAL SESSIONS: SATURDAY 8:00-10:15

BIOLOGICAL SCIENCES ROOM CCCS 105
Chair: D. James

8:00
COMPARISON OF BACTERIAL COMMUNITIES IN NATURAL AND DEVELOPED WATERSHEDS OF THE BUFFALO NATIONAL RIVER USING CULTIVATION AND 16S METAGENOMICS TECHNIQUES

Michael Ukpong. North Arkansas College

8:15
PERSISTENCE OF DOWNSTREAM NEGATIVE IMPACT OF POINT SOURCE AND NON-POINT SOURCE STREAM POLLUTANTS

Timothy Wakefield. John Brown University

8:30
HISTOLOGY OF RATHKE'S GLANDS IN THE RAZOR-BACKED MUSK TURTLE, *STERNOTHERUS CARINATUS* (CHELONIA: KINOSTERNIDAE), WITH COMMENTS ON LAMELLAR BODIES

Stan Trauth. Arkansas State University

8:45
COCCIDIAN PARASITES (APICOMPLEXA: EIMERIIDAE) OF ARKANSAS HERPETOFAUNA: A SUMMARY WITH TWO NEW STATE RECORDS

Chris McAllister. Eastern Oklahoma State College-Idabel

9:00
ECOLOGY OF BLANCHARD SPRINGS CAVERNS, OZARK NATIONAL FOREST, ARKANSAS, 42 YEARS LATER

Selena Sasser. Southern Illinois University

9:15
VERTEBRATE NATURAL HISTORY NOTES FROM ARKANSAS, 2017

Renn Tumblison. Henderson State University

9:30
BAT OCCUPANCY ESTIMATES AND SPECIES RICHNESS AT CACHE RIVER NATIONAL WILDLIFE REFUGE

Virginie Rolland. Arkansas State University

9:45
RESULTS OF TRAPPING SMALL MAMMAL POPULATIONS IN A GRASSLAND AND FOREST AREA AT THE LAKE FAYETTEVILLE ENVIRONMENTAL CENTER.

Douglas James. University of Arkansas

10:00
SULFUR OXIDATION GENOMICS IN THE AEROBIC PURPLE SULFUR BACTERIUM *HALOTHIOBACILLUS NEAPOLITANUS*

Newton Hillard. Arkansas Tech University

ENGINEERING/CHEMISTRY ROOM CCCS 115
Chair: M. Khan

8:00
DEVELOPING A LOW COST 3D PRINTING LAB AND THE USE OF 3D PRINTING IN A FRESHMAN ENGINEERING LAB COURSE

Mahbub Ahmed. Southern Arkansas University

8:15
RESTRAINED SHRINKAGE OF FLY ASH BASED GEOPOLYMER CONCRETE AND ANALYSIS OF LONG TERM SHRINKAGE PREDICTION MODELS

Md Rashedul Islam. Southern Arkansas University

8:30
OPTICAL PROPERTIES OF IRRADIATED SnO_2 THIN FILMS PREPARED BY CHEMICAL SPRAY PYROLYSIS

Ali N. Mohammed. Al-Mustansaryah University

8:45
SWEETER SCORPIONATES INCORPORATE CARBOHYDRATES INTO FUNCTIONAL METAL CHELATES

Patrick Desrochers. University of Central Arkansas

9:00
DESIGN AND SYNTHESIS OF NIR DONOR-ACCEPTOR FLUOROPHORES

Rajib Choudhury. Arkansas Tech University

BIOLOGICAL SCIENCES ROOM CCCS 101
Chair: T. Yamashita

8:00
GEOGRAPHIC DISTRIBUTION OF YELLOW GRUB IN SMALLMOUTH BASS POPULATIONS OF CROOKED

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CREEK AS DETERMINED BY METACERCARIAL CYST COUNTS IN THE GILL-MOUTH (OROBANCHIAL) SITES

James Daly Sr. University of Arkansas for Medical Sciences (retired)

8:15 THE FISHES OF CHADRON CREEK, DAWES COUNTY, NEBRASKA

Chris McAllister. Eastern Oklahoma State College-Idabel

8:30 ANATOMICAL DISTRIBUTION OF *CLINOSTOMUM* METACERCARIAE IN THE TISSUES OF POND-RAISED CHANNEL CATFISH

James Daly Sr. University of Arkansas for Medical Sciences (retired)

8:45 PHYLOGEOGRAPHY AND VICARIANT SEPARATION OF TWO RIVER DARTERS, *PERCINA URANIDEA* AND *PERCINA VIGIL*, FROM THE NORTH AMERICAN INTERIOR HIGHLANDS

Tsunemi Yamashita. Arkansas Tech University

9:00 LONG-TERM AQUATIC INVERTEBRATE MONITORING AT BUFFALO NATIONAL RIVER, ARKANSAS

David Bowles. US National Park Services

9:15 DEVELOPMENT OF THE ARKANSAS CENTER FOR BIODIVERSITY COLLECTIONS (ACBC) AT ARKANSAS STATE UNIVERSITY

Brook Fluker. Arkansas State University

9:30 LIRIOPE AND OPHIOPOGON: OVERVIEW OF TWO GENERA OF RUSCACEAE NATURALIZED IN THE ARKANSAS FLORA

Megan Stone. Henderson State University

9:45 NEW AND NOTEWORTHY VASCULAR PLANT RECORDS FROM ARKANSAS

Brook Olsen. Henderson State University

10:00 LEECH PARASITISM OF THE GULF COAST BOX TURTLE, *TERRAPENE CAROLINA MAJOR* (AGASSIZ, 1857) (TESTUDINES: EMYDIDAE)

Dennis Richardson. Quinnipiac University

POSTER PRESENTATIONS

BIOLOGICAL SCIENCES POSTER PRESENTATIONS

1. **THE TOXICOLOGICAL EFFECTS OF DIETARY SUPPLEMENT ADDITIVES ON *DAPHNIA MAGNA*.**
Antoinette Odendaal

2. **SUNBATHING IN THE NORTHERN ROADRUNNER: AN UNEXPLORED TRAIT FOR THEIR RANGE EXTENSION.**
Kimberly Smith
3. **LITERATURE RECORD CHECKLIST OF TRUE BUGS (HEMIPTERA) FOR ARKANSAS WITH THE FIRST REPORT OF *PSEUDOPACHYBRACHIUS VINCTUS* (RHYPAROCHROMIDAE) (ALSO OKLAHOMA) AND AN ANALYSIS OF MIRIDAE SEX RATIO FROM LIGHT TRAPS.** Stephen Chordas III
4. **SURVEY OF RODENTS WITHIN ARKANSAS GAME AND FISH COMMISSION WILDLIFE MANAGEMENT AREAS.**
Matthew Connior
5. **NEW RECORDS OF PARASITES (APICOMPLEXA, ACARI, ANOPLURA, NEMATODA) FROM RODENTS IN ARKANSAS.**
Matthew Connior
6. **DISTRIBUTION OF THE EASTERN SPOTTED SKUNK, *SPILOGALE PUTORIUS*, IN THE EARLY TWENTIETH CENTURY.**
D. Blake Sasse
7. **CENTRAL NESTS ARE MORE SUCCESSFUL AND PREFERRED FOR REUSE THAN PERIPHERAL NESTS IN CLIFF SWALLOW (*PETROCHELIDON PYRROHONOTA*) COLONIES.**
Steward Huang
8. **THE FLEAS (ARTHROPODA: INSECTA: SIPHONAPTERA) OF ARKANSAS.**
Matthew Connior
9. **AN ANNOTATED CHECKLIST OF THE CRAYFISHES (DECAPODA: CAMBARIDAE) OF ARKANSAS.**
Chris McAllister
10. **UNDERSTANDING CONFRONTATIONAL BEHAVIOR OF THE RAINBOW LORIKEET (*TRICHOGLOSSUS HAEMATODUS*) AS A STRATEGY TO REDUCE ITS IMPACT AS AN INVASIVE SPECIES.**
Victoria Veerhusen
11. **PHYSIOLOGICAL EFFECTS OF LEAD NITRATE ON FOUR ARKANSAS NATIVE PLANT SPECIES AND THE ROLE OF ARBUSCULAR MYCORRHIZAL FUNGI ON PLANT STRESS MITIGATION.**
Nicholas Dial
12. **THE EFFECTS OF MICROGRAVITY ON VASCULAR TONE IN FEMALE MICE.**
Sage Shaddox
13. **ANALYSIS OF THE OXIDATIVE ENZYMATIC PROPERTIES OF THE BOTTLENOSE DOLPHIN DIAPHRAGM AND SCALENUS MUSCLE.**
McKenzie Stribling

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14. **A QUALITATIVE ANALYSIS OF MACROINVERTEBRATES IN THE UCA VERNAL PONDS.**
DeShauna Tucker
15. **SWIMMING PREFERENCES OF GUINEA PIGS.**
Olivia Sims
16. **THE EFFECT OF HABITAT FRAGMENTATION ON *SCELOPORUS CONSOBRINUS*-PRAIRE LIZARDS LOCATED IN CENTRAL ARKANSAS.**
Mallory Heft
17. **A HABITAT SUITABILITY ANALYSIS OF THE RED WOLF ACROSS ITS HISTORIC RANGE.**
Lauren Toivonen
18. **EFFECT OF STYROFOAM DIET ON THE GUT PROTISTS OF MEALWORMS (*TENEBRIO MOLITOR*).**
Brooke Skinner
19. **LONGITUDINAL PATTERNS IN AN ARKANSAS RIVER VALLEY STREAM: TESTING THE RIVER CONTINUUM CONCEPT.**
Angela Lenard
20. **UTILITY OF THE LOW COPY NUCLEAR GENE LEAFY FOR PHYLOGENETIC STUDIES IN THE SUNFLOWER FAMILY (ASTERACEAE), TRIBE ASTEREA.**
Miguel Mercado
21. **RWANDAN SOCIETAL IMPROVEMENTS VIA THE USE OF ROCKET STOVES.**
Kyle Davis
22. **ENZYME PRODUCTION AND HORMONE SIGNALING MEDIATE LONGEVITY RESPONSES TO DIETARY RESTRICTION IN *C. ELEGANS*.**
Ashley Henderson
23. **ISOLATION OF ERYTHROCYTES FROM FRESHWATER TURTLES FOR USE IN TELOMERE LENGTH ANALYSIS.**
EliasSmith
24. **INFLUENCE OF COMMON SALT CONCENTRATIONS ON DETRITIVORE RESPIRATION.**
Billy Huggins
25. **BODY SHAPE VARIATION WITHIN AND AMONG LINEAGES OF THE RAINBOW DARTER, *ETHEOSTOMA CAERULEUM*.**
Kandria Driskill
26. **EFFECTS OF BLACK-SPOT DISEASE ON THE BODY CONDITION OF BLEEDING SHINERS, *LUXILUS ZONATUS*.**
Lindsey Martin
27. **BIOREMEDIATION OF PETROCHEMICALS FROM SOIL.**
Mitchell Rowland
28. **WESTERN SPRUCE BUDWORM HERBIVORY INFLUENCES STREAM MACROINVERTEBRATE STRUCTURE AND BIOMASS.**
Deion Everhart
29. **MACROINVERTEBRATE COMMUNITY RESPONSE TO A GRADIENT OF URBANIZATION IN THE WHITE OAK BAYOU WATERSHED.**
Joshua Nilz
30. **PREY ITEMS IMPALED BY LOGGERHEAD SHRIKES IN NORTHWESTERN ARKANSAS.**
Ross Shiery
31. **IMMUNOLOCALIZATION OF THE CADHERIN 18 PROTEIN IN FETAL KIDNEY CELLS.**
Scotty McKay
32. **ANALYSIS OF BODY SHAPE VARIATION AMONG RESTRICTED AND WIDESPREAD POPULATIONS OF THE SOUTHERN REDBELLY DACE, *CHROSOMUS ERYTHROGASTER*.**
Dustin Thomas
33. **RECRUITMENT AND SURVIVAL IN *LIGUSTRUM SINENSE*.**
Mason Rostollan
34. **ANALYSIS OF A *DROSOPHILA MELANOGASTER* RIBOSOMAL PROTEIN GENE.**
JohnMitchell
35. **EVALUATING THE EFFECTS OF BIRD FEEDERS ON SONGBIRD PLUMAGE COLORATION.**
Stetson R. Collard
36. **SOIL CRUST ALGAL COMMUNITIES OF WARREN PRAIRIE NATURAL AREA.**
Crystal Haynes
37. **A COMPARISON OF THE IMPACTS OF WIND ENERGY AND UNCONVENTIONAL GAS DEVELOPMENT ON LAND-USE AND ECOSYSTEM SERVICES: AN EXAMPLE FROM THE ANADARKO BASIN OF OKLAHOMA, USA.**
Kendall Davis
38. **LAND-USE AND ECOSYSTEM SERVICES COSTS OF UNCONVENTIONAL OIL AND GAS IN THE U.S.**
Nathan Taylor
39. **IMPACT OF BAKKEN/THREE FORKS UNCONVENTIONAL OIL AND GAS DEVELOPMENT ON IMPORTANT WILDLIFE LANDSCAPES IN NORTH DAKOTA.**
Howden Carly
40. **OPTIMUM LIGHTING FOR OXYGEN PRODUCTION OF *ARTHROSPIRA PLATENSIS*.**
Camryn Ruggeri
41. **CHARACTERIZING A PUTATIVE MYCO-BACTERIOPHAGE TOXIN-ANTITOXIN SYSTEM.**
Alex Abbott

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42. **EXPRESSION OF OCT4 AND NANOG IN HUMAN FIBROBLASTS WITH SHORT TELOMERES.**
Ethan Clement
43. **CHARACTERIZING THE PERSISTING CORTICAL SUBPLATE IN RATS ACROSS DEVELOPMENT, MATURATION, AND AGING.**
Terri Teague
44. **GLUCOSE-MEDIATED NEUROPROTECTION AGAINST PROTEOTOXICITY IS ENERGY-DEPENDENT IN *CAENORHABDITIS ELEGANS*.**
Landon Gattrell
45. **THE EFFECTS OF TRPC3 CHANNEL ACTIVATION ON VASCULAR TONE IN HEALTHY ARTERIES VERSUS DISEASED ARTERIES.**
Alan Jackson.
46. **COMPARATIVE GENOMICS OF THE PARABURKHOLDERIA BACTERIAL SYMBIONTS OF THE SOCIAL AMOEBA *DICTYOSTELIUM DISCOIDEUM*.**
Alexandria Melton
47. **EPIDEMIOLOGY OF PANDEMIC INFLUENZA IN ARIZONA.**
Jenna Suen
48. **EPIDEMIOLOGY OF PANDEMIC INFLUENZA IN MISSOURI.**
Harleigh Robbins
49. **LIPID EXTRACTION OF *C. ELEGANS*.**
Lauren Westwood
50. ***CAENORHABDITIS ELEGANS* HERMAPHRODITES HAVE REDUCED STRESS TOLERANCE WHEN GROWN IN THE PRESENCE OF RESIDUAL MALE PHEROMONES.**
Nathan Carmichael
51. **GLUCOSE MEDIATES EARLY-LIFE STRESS RESISTANCE IN *C. ELEGANS*.**
Kaitlynn Butler
52. **REGULATION OF SYMBIOTIC GENE EXPRESSION IN RICE.**
Ha Ram Kim
53. **THE INFLUENCE OF EMBRYONIC STRESS HORMONES ON PHENOTYPIC VARIATION AND FITNESS IN *SCELOPORUS CONSOBRINUS***
Marcia Polett
- CHEMISTRY POSTER PRESENTATIONS**
54. **SYNTHESIS OF AMINO ACID RADICAL PRECURSORS.**
Candice Foscue
55. **RETINOIC ACID RECEPTOR GAMMA RECIPROCALLY REGULATES CELLULAR ADHESION AND PROLIFERATION IN K562 CELLS.**
Victoria Niedzwiedz
56. **IMPACT OF CHEMISTRY/MATHEMATICAL VIDEO-LECTURES ON STUDENT-BASED LEARNING IN A FRESHMAN LEVEL CHEMISTRY COURSE.**
Aaron Stebbins
57. **ANALYZING THE PROPERTIES OF BIODIESEL.**
Dakotah Cooper
58. **IDENTIFYING THE STRUCTURE OF FAT-MOBILIZING SUBSTANCE (FMS-1) ASSOCIATED WITH CONGENITAL LIPODYSTROPHY.**
Mallory Bryant
59. **MEASUREMENT OF MULTICOMPONENT AEROSOL OPTICAL PROPERTIES USING PULSED LASER CAVITY RING-DOWN SPECTROSCOPY.**
Haley Kay
60. **THEORETICAL SEMI-EMPIRICAL CALCULATIONS OF ETHYLENEDIAMINETETRAACETIC ACID (EDTA) BOUND METAL COMPLEXES MODELED FOR HEAVY METAL POISONING.**
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61. **THEORETICAL THERMOCHEMICAL BOND STABILITY OF EDTA CHELATION WITH METAL IONS FOR CHELATION THERAPY TO TREAT HEAVY METAL POISONING.**
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62. **DETERMINATION OF FATTY ACID CONCENTRATIONS IN ALGAE.**
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63. **ALTERING THE CONFORMATIONAL ENSEMBLE OF PEP-19 USING CALCIUM.**
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64. ***IN SILICO* PREDICTIONS OF CONFORMATIONS AND ORIENTATIONS OF SMALL MOLECULES WITHIN A MACROCYCLE.**
Kassandra Cendejas
65. **THE EFFECT OF VIDEO-BASED INSTRUCTION ON STUDENT PERFORMANCE IN A COLLEGE CHEMISTRY LABORATORY.**
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66. **CONFORMATIONAL PROTEIN ENSEMBLE OF THE CALMODULIN LIGAND PEP-19.**
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67. **EXPRESSION AND PURIFICATION OF CALMODULIN BINDING PARTNER PEP-19.**
Christian Mitchell
68. **WATER ADSORPTION ON MONTMORILLONITE: COMPARISON OF WASHED AND UNWASHED CLAYS.**
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69. THE EFFECT OF SIMULATED MICROGRAVITY ON THE BIOPHYSICAL PROPERTIES OF THE TIBIA.

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70. TOWARDS A CHLORINE-BASED FLUOROPHORE SYNTHESIS FOR PHARMACOKINETIC DIAGNOSIS IN NEGLECTED TROPICAL DISEASES.

Shelby Bridges

71. THE SYNTHESIS OF NATURAL PRODUCT-BASED DRUGS TO TREAT A NEGLECTED TROPICAL DISEASE: LEISHMANIASIS.

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72. DESIGN OF VIRTUAL ENDOLUMINAL SURGERY SIMULATOR (VESS).

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73. VIRTUAL ARTHROSCOPIC TEAR DIAGNOSIS AND EVALUATION PLATFORM (VATDEP).

Mustafa Tunc

74. A GENTLENESS SIMULATOR FOR SURGICAL DEXTERITY EVALUATION OF SURGEONS WITH HAPTIC INTERFACES.

Recep Erol

75. ANALYSIS AND COMPARISON OF WINE EXPERTS WITH WINEINFORMATICS.

Valentin Velchev

76. DRONE DELIVERY WITH A PARROT BEBOP 2.

James Palmer

77. LOW-DELAY RATE CONTROL FOR H.265/HEVC VIDEO COMPRESSION.

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78. ORION ROVER MAZE SOLVER AND OBJECT DETECTION.

Binqi Sun

79. EDUCATIONAL DRONES: MINI-DRONE TRAVIS BY PARROT.

Sravani Marreddy

80. ARTHROSCOPIC ROTATOR CUFF SURGERY PERFORMANCE COMPARISON STUDY OF NOVICES AND EXPERTS.

Seth Cooper-Baer

81. JD HUMANOID ROBOT.

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82. EVALUATION OF A 3D METAL-ORGANIC FRAMEWORK $Cu(bpy)V_4O_{10}$ AS A CATHODE MATERIAL FOR Li-ION BATTERIES.

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83. TERAHERTZ PULSED IMAGING OF FRESHLY EXCISED XENOGRAFT BREAST CANCER TUMORS IN MICE.

Tyler Bowman

84. RADIATION PRESSURE ON CORE-SHELL NANOPARTICLES.

Mohammad Habibur Rahaman

85. ANALYTICAL MODELING OF MICROSCOPIC AND MACROSCOPIC ANALYSIS OF DIELECTRIC MATERIAL.

Misuk Saha

86. IMAGE ANALYSIS TOOLBOXES FOR FINDING THE MEAN PORE SIZE OF SCAFFOLDS AND DIAMETER DISTRIBUTION OF FIBERS.

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87. TECTONO-STRATIGRAPHIC AND SEQUENCE AND STRATIGRAPHIC SUCCESSIONS, OZARK SHELF, TRI-STATE REGION, SOUTHERN MIDCONTINENT.

Elvis Bello

88. UTILIZING KARST FEATURES TO ACCOUNT FOR DIFFERENCES IN WATER QUALITY IN THE OZARK PLATEAUS IN NORTHERN ARKANSAS.

Samantha Wacaster

89. BRIDGING TECHNOLOGY AND COMMUNITY USING WEB-BASED GIS.

Samuel Treece

90. WATER ADSORPTION ON GOETHITE: CCN ACTIVATION FROM FRENKEL, HALSEY AND HILL ACTIVATION THEORY.

Ryan Tumminello

91. QUANTIFICATION OF LEVOGLUCOSAN IN PM_{2.5} ATMOSPHERIC AEROSOLS USING GC/MS: SEASONALITY OF A BIOMASS BURNING TRACER IN CENTRAL ARKANSAS.

Abigail Gatmaitan

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Jessica Young

93. THE IMPACT OF WEATHER ON MUSIC FESTIVALS IN OKLAHOMA

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94. OPTIMAL LOCATIONS FOR THE GENERATION OF RENEWABLE ENERGY.

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Charles Bertram
97. **PROCESS ENGINEERING: 3 DIMENSIONAL COLORSPACE CORRECTION.**
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99. **THE LAGRANGIAN AND HAMILTONIAN FORMULATION OF THE LINEAR OSCILLATOR CHAIN.**
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100. **MAXIMIZING WIND POWER.**
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102. **DETERMINING BLACK HOLE MASS OF ACTIVE GALACTIC NUCLEI USING FWHM OF THE H- β EMISSION LINE AND LUMINOSITY RELATIONS.**
Jacob Cameron
103. **A GEOMETRIC APPROACH TO DETERMINING CONSERVATION LAWS FOR WAVES ON A STRING.**
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104. **MAPPING THE INFLUENCE OF WEATHER ON CONCRETE.**
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105. **THE EFFECTS OF WEATHER ON INSURANCE.**
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107. **MECHANICAL AND CHEMICAL ALTERATIONS IN RAT LEG BONES UPON EXPOSURE TO SIMULATED MICROGRAVITY AND COSMIC RADIATION.**
Hayley Heacox
108. **RENEWABLE ENERGY IN RESEARCH AND EDUCATION.**
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113. **OPTIMAL CROP GROWING SEASONS DETERMINED USING MESONET.**
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114. **NEUTRON CAPTURE ELEMENTS IN LOW METALLICITY STARS WITHIN THE INNER-GALACTIC HALO.**
Kenneth Jumper
115. **THE EFFECT OF MODEL ATMOSPHERE PARAMETERS ON THE ELEMENTAL ABUNDANCES IN HALO STARS.**
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