

**107th Arkansas Academy of Science Meeting
Poster Schedule - Saturday, April 6, 2024
Stubblefield Center**



Poster Session A: Odd Numbered Posters 10:20 – 11:15 AM

Poster #	Discipline	Title Author(s)
1	AG	In Vitro Establishment and Micropropagation of <i>Ipomoea batatas</i> : An Arkansas Relevant Crop to Establish a Genomic Library for the Detection of Pathogens. Alexandra Barnett, Prcila Tinajero, & Arturo Ferrer
3	BI	An updated distribution of <i>Usazoros hubbardi</i> (Caudell) (Insecta: Zoraptera, Zorotypidae) in Arkansas David E. Bowles
5	BI	Infectious diseases and cancers likely have one common enemy: autophagy inducers Christian Dunger & Mohammad Goodarzi
7	BI	Internal Temperature on Embryonic Development in the 9-Banded Armadillo Jackson Frederick
9	BI	Energy Content of Acorns of Shinnery Oak (<i>Quercus havardii</i>) in the Diet of Scaled Quail (<i>Callipepla squamata</i>) in Southeastern New Mexico John L. Hunt, Matthew E. Grilliot, Troy L. Best, Isaac C. Castillo, Dixie Lozano-Lopez, & Emily R. Neilson
11	BI	Investigating Galectin Glycoprotein Interaction with Sialoglycans and Nanoparticles Luke Jodoin, Lyndsie Hicks Archana Mishra, & Rahul Yadav
13	BI	Intracellular Metal's two way Impact on DNA Damage and Toxicity when related to doses of antibiotics in <i>Escherichia coli</i> Tyler Melton & Mohammad Goodarzi
15	BI	The Effects of Tallgrass Prairie Restoration on Microbial Diversity Cecilia Perez, Camelia Vela, & Jeff Shaver
17	BI	<i>C. elegans</i> and Vitamin D supplementation as a means of understanding proteostasis Joey Sharp, London Blackwell, J.T. Roscoe, & Mindy Farris
19	BI	The Genetic Diversity of <i>Warea amplexifolia</i> Joseph Stroupe, Carson Craft, Christin Pruett, & Cheryl Peterson
21	BI	Implications of Artificially Induced Schooling on Problem Solving and Behavior: The Inclination of Socialization Over Hunger in Wild Type <i>D. rerio</i> Anna Vollintine, Lei Li, & Stefanie Leacock

Discipline Key: AG = Agriculture, Food & Renewable Resources; BI = Biological Sciences; CH = Chemistry; EN = Engineering, Industrial Science & Technology; GE = Geology & Geography; IN = Information, Computing & Communication; PH = Physics; SO = Societal Impacts of Science & Engineering

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23	BI	Exploring Genetic and Environmental Factors that Control Differentiation of Pseudoplasmodium in <i>Dictyostelium discoideum</i> Evan Wittig & Sandhya N Baviskar
25	CH	Computational Study of CDC42 Inhibitors for Therapeutic Interventions in Triple Negative Breast Cancer Emily Esquivel, Ross S. Hunter, & Djamali Muhoza
27	CH	Development of Novel Rifamycins Using Complex Rifamycin Chemistry with Simple Click Chemistry Catherine Hunter, Zane Fountain, Hannah Davidson, Natalya Kaza, Jessie Parchman, Rachel E. Tyler, Braden L. Glenn, Wyatt Treadway, Isabella Beasley, Nikkolette Perkins, Daniel Armstrong, Samir V. Jenkins, Marissa Fullerton, Amir Mortazavi, Daniel Voth, Ruud Dings, & Irosha Nawarathne
29	CH	Investigating the Salt Bridge Stability of the Novel Growth Factor FGF1-FGF2 Dimer Samuel Lannutti
31	CH	Microplastic Identification in Rural North Central Arkansas' Water Sources Hannah Reynolds, William Howerton, Sabrina Lowe, & Irosha Nawarathne
33	CH	AI-Driven Discovery and Evaluation of Potent AND Selective TNAP Inhibitors for CKD associated Mineral and bone disorder Therapy Alyssa Teague, Emily Esquivel, Stacy Hunter, & Djamali Muhoza
35	CH	Working Towards the Determination of Bifenthrin in Arkansas Waters Caleb Wooten, & Sara E. Hubbard
37	EN	Molecular Dynamics Simulations of NiCr Alloys with Ti3SiC2 Inclusions Brendan Crutchfield & Robert A. Fleming
39	EN	Thermodynamic characterization of a novel, biomass-fueled, fluidized-fixed bed reactor for green energy implementation Taylor Lackey, Ogooluwa P. Ojo, & Ashokkumar M. Sharma
41	EN	A Novel Hybrid Evolutionary Algorithm for Economic Dispatch in Power Systems Partho Das Neer, Ehsan Naderi, & Shubhalaxmi Kher

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43	EN	Empowering Sustainable Mobility: Solar-Powered Wireless EV Charging Stations with IoT Integration Mohammad Abidur Rahman, & Ali Abushaiba
45	EN	Enhancing Disease Detection in South Asian Freshwater Fish Aquaculture Through Convolutional Neural Networks Hayin Tamut & Robin Ghosh
47	GE	A Darcy column for research and demonstration in hydrogeology Abigail Carico, Juan Lopez, Kendal Dixon, & Dave Mayo
49	GE	Testing the accuracy of Polycam® 3D Scanning software on LiDAR and Optical Photogrammetry devices in field research Abigale Kelly, Perla Romero, Lisa Cady, & Maurice Testa
51	GE	Distribution of Detrital Sediment Captured in McKay Bay Member Knoll Reef, Upper Peninsula, Michigan Kaleb McLaughlin, Perla Romero, Abigale Kelly, Erik Larson, & Maurice Testa
53	IN	Analyzing Website Fingerprinting (WF) Attacks on Tor: Closed vs. Open World Environments Andrew Booth & Donghoon Kim
55	IN	Identification of key genes and major pathways involved in suppression of tumorigenesis by CREB3L1 in breast cancer Melissa Walker, Carvis Campbell, & Vinay Raj
57	PH	Design and Implementation of 3D-Printable Optomechanical Components Harry Lance, Jacie Hill, Julie Schwartz, Bill Gunderson, & Julie Gunderson
59	PH	Spatial & Temporal Features of Northern Hemisphere Particle Precipitation Miah Adel
61	SO	Image Classification for Impaired Vision using Deep Learning Toolbox Yaqub Suleymanov

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**107th Arkansas Academy of Science Meeting
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Poster Session B: Even Numbered Posters 11:15 – 12:10 PM

Poster #	Discipline	Title Author(s)
2	AG	An innovative gasification technique for the production of green energy using diverse solid waste Ogooluwa P. Ojo, Taylor Lackey, & Ashokkumar M. Sharma
4	BI	Snacking with the racket: Does urbanization lead to a trade-off between foraging and vigilance behavior in American Robins (<i>Turdus migratorius</i>)? Andrew T. Clark, Quynh H. Nguyen, Katherine C. Nierstheimer, Hannia C. Valero, Zachary J. West, Elizabeth C. Williams, Kirsten P. Bartlow, Christopher R. Middaugh, Kimberly L. Sparks, & Maureen R. McClung
6	BI	Temporary sodium chloride treatment influences germination of activated and unactivated <i>Bacillus anthracis</i> spores Taylor East, Avery Martin, Macie Carter, & Andrew Roser
8	BI	Differing soil moisture treatments: the effects on seed germination, root and shoot length in three plant species Romone Gantt & Veronica Rauls
10	BI	Effects of vitamin supplementation on the short-term memory of <i>Caenorhabditis elegans</i> Paola Ibarra, Levi Friddle, & Mindy Farris
12	BI	New Record of Leucistic Blue Catfish, <i>Ictalurus furcatus</i> (Siluriformes: Ictaluridae) from The Black River, Lawrence County, Arkansas Chris T. McAllister & Henry W. Robison
14	BI	The Effect Of New Generation Inhibitors On mTOR Signaling Using Western Blotting Oyekemi Oyetoro & Mohammad Goodarzi
16	BI	Lifespan and stress resistance of four strains of <i>C. elegans</i> treated with rapamycin Robert Redditt, Alexis Brown, Trey Thurman, & Mindy Farris
18	BI	The interactive effects of defoliation and fertilization on fine root growth and stomatal density: Does fast recovery come at the expense of reduced drought tolerance? Harper Sobel, Emiley Purvis, & Erin Wiley
20	BI	Investigating Waxworm Larvae Diet to Maximize Plastic Waste Biodegradation Carli Tackett, Claire Greene, R. Shea Harris, & Maureen C. Dolan

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22	BI	Investigating the impact of the March 2023 Central Arkansas tornado on mammal species richness and activity Elizabeth C. Williams, Andrew T. Clark, Quynh H. Nguyen, Katherine C. Nierstheimer, Hannia C. Valero, Zachary J. West, Kirsten P. Bartlow, Christopher R. Middaugh, Kimberly L. Sparks, & Maureen R. McClung
24	CH	Enhancing Light Emission in Organic-Inorganic Hybrid Perovskites through Polymer Composite Integration Maoding Cheng & Qingling Jiang
26	CH	Central Arkansas Water Quality: Assessment and Monitoring Abigail Howell, Maggie Greer, Walker Hendricks, Andrew Headley, & Jaime Murphy
28	CH	The Pursuit of Coordination Polymers with Transition Metals and Thione Heterocycles Shannon Keyser, Audrey Lawrence, & Jaime Murphy
30	CH	Exploring the Role of Hydroperoxidase II (HPII) as a Key Player in Antibiotic Resistance Mechanisms through Purification using Experimental Design Ava Voke Ogboriaphien
32	CH	Molecular Dynamics Study of Organochlorine Ligand Interaction with Human Serum Albumin David S. Sanford, Rahul Yadav, & Archana Mishra
34	CH	Towards the Measurement of Permethrin in Arkansas Surface Waters Alex Treadway & Sara E. Hubbard
36	EN	Design, development, and study of the wastewater recirculation system for a hydraulic ram pump Mohammad Ashikul Alam, Trevor Dady, & Ashokkumar M. Sharma
38	EN	The effect of a multi-inlet pipe flow system on the performance of a hydraulic ram pump Trevor Dady, Mohammad Ashikul Alam, & Ashokkumar M. Sharma
40	EN	CubeSat Testing Apparatus Jake Martinez

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42	EN	Optimizing Campus Chat-bot Experience: Integrating Large Language Model (LLM) into University AI Assistants Sijan Panday, Clayton Jensen, & Zurab Sabakhtarishvili
44	EN	A Portable, Affordable, Open Source Incubator for Temperature Control Landon Rogers, Jacob Oster, R. Shea Harris, Paul Minor, Maureen Dolan, & Robert A. Fleming
46	EN	Multi-pad Launch Controller for Low-, Mid-, and High-Power Model Rockets Sean X. Thomas & David J. Thomas
48	GE	Morphological comparison of <i>Mulinia congesta</i> and <i>Mulinia lateralis</i> (Mollusca: Bivalvia: Mactridae) from the Neogene and Quaternary Periods of Florida Michelle Johnston, Braeden Hurley, Roger W. Portell, & Shamindri Tennakoon
50	GE	A benchtop model of a groundwater piezometer nest Juan Lopez, Abbie Carico, Kendal Dixon, & Dave Mayo
52	GE	X-Ray Diffraction and Petrographic Analysis of Magnet Cove Carbonatite Core, Arkansas Emily Mero, Cassandra Huggins, Dave Mayo, & Maurice Testa
54	IN	Deep Learning-Based Sports Image Classification Using Transfer Learning Musfikur Rahaman & Robin Ghosh
56	PH	SAA Anomaly during 1984-86: EXOS-C Observation Miah M Adel & Rezwana K Roza
58	PH	Low loss InP/GaP Waveguides for Sapphire-based Photonic Integrated Circuits Platform Joel Ruzindana, Kennedy Abanihe, Wisdom Ariagbofo, Manoj Shah, & Mansour Mortazavi
60	SO	Implementation of a Classroom Compatible Incubator for K-12 Citizen Science Outreach Paige Fithen, R. Shea Harris, Robert Fleming, & Maureen C. Dolan
62	SO	Korean Language Character Recognition Using Convolutional Neural Network Minsoo Kim

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