

**107th Arkansas Academy of Science Meeting  
Talk Schedule - Friday, April 5, 2024**



**Session A – Campus Center: CC129AB**

Agriculture, Food & Renewable Resources / Information, Computing & Communication / Biological Sciences

Time	Talk #	Title Author(s)
2:00 PM	1	Location, Location, Location: Cimarron County, Oklahoma and the Dust Bowl. Steve Kite
2:15 PM	2	Community and Collaboration: Home Demonstration Clubs and Women's Responses to the Dust Bowl in Cimarron County, Oklahoma. Shelly Lemons
2:30 PM	3	Resisting Corporatization and Colonization with Ancient Seeds. Daniel Maher
2:45 PM	53	Real-time Android Malware Detection using Efficient Machine Learning Features Emilio Soriano Chavez & Donghoon Kim
3:00 PM	54	Techniques to Detect Fake Profiles on Social Media Using the New Age Algorithms - A Survey AKM Rubaiyat Reza Habib, Edidiong Elijah Akpan, Bhaskar Ghosh, & Indira Kalyan Dutta
3:15 PM		Short 15 MIN break
3:30 PM	55	A Study on the Usage of Java Type Inference in Open Source Projects Dat O, Tran Nguyen, Isaac La Ferney, Donghoon Kim
3:45 PM	27	Distal Urogenital Anatomy and Epithelial Morphology in the Male Cajun Chorus Frog, <i>Pseudacris fouquettei</i> (Anura: Hylidae) Stan Trauth
4:00 PM	23	New and Noteworthy Angiosperm Records from Arkansas I Brett Serviss, Michael Brotherton, Renn Tumilson, & James Peck
4:15 PM	28	Ultrastructure of the Biflagellated Spermatozoon in the Western Siren, <i>Siren nettingi</i> (Caudata: Sirenidae), using Scanning Electron Microscopy Stan Trauth
4:30 PM	24	New and Noteworthy Angiosperm Records from Arkansas II Brett Serviss, Tricia Serviss, Jonathan Hardage, & James Peck
4:45 PM	29	Pleated Plasma Membrane Complex in Spermatids of the Western Siren, <i>Siren nettingi</i> (Caudata: Sirenidae) Stan Trauth

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**Session B – Math-Science: MS101  
Biological Sciences**

Time	Talk #	Title Author(s)
2:00 PM	32	Party all night, sleep all day: Urbanization shifts nocturnal activity patterns of Central Arkansas nine-banded armadillos ( <i>Dasypus novemcinctus</i> ) Zachary J. West, Andrew T. Clark, Quynh H. Nguyen, Katherine C. Nierstheimer, Hannia C. Valero, Elizabeth C. Williams, Kirsten P. Bartlow, Christopher R. Middaugh, Kimberly L. Sparks, & Maureen R. McClung
2:15 PM	5	Use of Google Earth Streetview to evaluate occurrence of nesting by Cliff Swallows ( <i>Petrochelidon pyrrhonota</i> ) at bridges and overpasses in eastern Arkansas. Zoie Autrey & Renn Tumilson
2:30 PM	6	The effect of glucose enrichment on the survival and stress resistance of <i>C. elegans</i> models of Huntington Disease London Blackwell, Joey Sharp, Gisselle Hernandez, & Mindy Farris
2:45 PM	7	Eastern gray squirrel ( <i>Sciurus carolinensis</i> ) diel activity does not shift in urban environments in response to human activity 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
3:00 PM	8	Photogrammetry reveals Virginia opossum ( <i>Didelphis virginiana</i> ) body size increases with urbanization in Central Arkansas 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
3:15 PM		Short 15 MIN break

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**Session B – Math-Science: MS101**  
Biological Sciences

Time	Talk #	Title Author(s)
3:30 PM	30	Red light, green light: Legacy impacts of historically redlined areas on bird and mammal biodiversity in Central Arkansas Hannia C. Valero, Andrew T. Clark, Quynh H. Nguyen, Katherine C. Nierstheimer, Zachary J. West, Elizabeth C. Williams, Kirsten P. Bartlow, Christopher R. Middaugh, Kimberly L. Sparks, & Maureen R. McClung
3:45 PM	10	Comparison of Cytotoxicity of Rabid Wolf Spider Venom in Vertebrate and Invertebrate Cell Culture Martina Gooden, Ryan Stork, & Steve Moore
4:00 PM	11	Mussel assemblages from Limpkin shell middens in Arkansas Gary R. Graves
4:15 PM	16	Geographical Variation in Songs of Bachman's Sparrow ( <i>Peucaea aestivalis</i> ) Le Nguyen, Karla Donas, Jack Jackson & Ragupathy Kannan
4:30 PM	13	A Review of Snake Distributions in Arkansas with Special Emphasis on Contributions from Citizen Science Ryan Jacobs, Nelly Ortiz, J. D. Willson, Kory G. Roberts, Jack Jackson & Ragupathy Kannan
4:45 PM	14	Rapid expansion of the Limpkin ( <i>Aramus guarauna</i> ) across North America Rajaa Kaddoura, Alina Alam, Jack Jackson & Ragupathy Kannan

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**Session C – Math-Science: MS104**  
Biological Sciences / Chemistry

Time	Talk #	Title Author(s)
2:00 PM	31	Fish Species within Sager Creek T.S. Wakefield
2:15 PM	4	The Effects of Caffeine on Glycine Max (Soybean) Proteogenomics Jana Abuelem & Mohammad Goodarzi
2:30 PM	33	The Effect of Fertilization on Defoliation Recovery in River Birch and Northern Red Oak Erin Wiley & Joseph Dunlap
2:45 PM	34	Bat Verses Ant: The Next Chapter, First Report of Bat / Ant Interactions in Arkansas J.D. Wilhide, D.B. Sasse, & R.P. Kelso
3:00 PM	35	Thermo-Chemical Comparison of PAHs, Carbohydrates, and Fatty Acids Kohl Kervin & Subha Pratihar
3:15 PM		Short 15 MIN break
3:30 PM	36	Study of Solvent-Free, Microwave-Assisted Ring-Opening Reactions of Phenyl Glycidyl Ether with Azoles MaryGrace McAfee, Joshua Pack, & Brian Walker
3:45 PM	37	Degradation Studies on Electrospun Nanofiber Wound Dressings Zachary McClain & Sharon Hamilton
4:00 PM	39	Synthesis and Evaluation of C-Ring Modified Prodiginines as Anticancer Drugs Joshua Pack & Brian Walker
4:15 PM	40	Unlocking student success in undergraduate Physical Chemistry Course: Applications of multimedia lessons Subha Pratihar
4:30 PM	41	Detection of BPA in Clothing Using Fluorescence Spectrophotometry Bella Rushing & Sara Hubbard
4:45 PM	38	Modified Naphthoquinone Rings: To Kill Two Birds with One Stone Irosha N. Nawarathne, Lola Beeser, Braden L. Glenn, Isabella Beasley, Wyatt Treadway, Rachel E. Tyler, Jessie Parchman, Nikkolette Perkins, Daniel Armstrong, Samir V. Jenkins, Marissa Fullerton, Amir Mortazavi, Daniel Voth, & Ruud Dings

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**Session D – Math-Science: MS304  
Biological Sciences**

Time	Talk #	Title Author(s)
2:00 PM	15	New Host and Distributional Records for Helminth Parasites (Trematoda, Cestoda, Nematoda) of Arkansas Reptiles (Testudines, Ophidia) Chris T. McAllister, Charles R. Burse, Thomas J. Fayton, & Henry W. Robison
2:15 PM	12	Dynamic and Static Quenching of Human Serum Albumin Tryptophan by Organochlorine Pesticides Lyndsie Hicks, Luke Jodoin, Archana Mishra, & Rahul Yadav
2:30 PM	17	Carbohydrate availability as a driver of stomatal properties: Defoliation recovery in two bottomland species. Jacob Nowlin, Kai Johns, & Erin Wiley
2:45 PM	18	Characterizing strongyle infections in the New England dairy goat community Nils Pilotte, Emily Thompson, Uswa Hanif, Dorothy Watters, Ethan Jalbert, Allison R. Sirois, Gabriel Trajkovic, & Dennis J. Richardson
3:00 PM	19	Leeches (Annelida: Hirudinea) of Arkansas Fishes Dennis J. Richardson, Chris T. McAllister, William E. Moser, Sarah P. Lawson, & Henry W. Robison
3:15 PM		Short 15 MIN break
3:30 PM	20	Annotated Checklist of the Camel Crickets (Insecta: Orthoptera: Rhaphidophoridae) of Arkansas Henry W. Robison & Chris T. McAllister
3:45 PM	21	Probable extirpation of the black-tailed jackrabbit from Arkansas D. Blake Sasse
4:00 PM	22	Characterizing Diet Impact on Microbiome Population of Plastic-degrading Waxworms Hannah M. Seats, Emilio Chavez, Asela Wijeratne, & Maureen C. Dolan
4:15 PM	25	History and distribution of the Wood Stork ( <i>Mycteria americana</i> ) in Arkansas. Lydia Serviss & Renn Tumilson
4:30 PM	26	Noteworthy Records of <i>Colocasia esculenta</i> (Araceae) in Arkansas, with Notes on its Biology and Ecology Tiffany Taylor, J. Michael Brotherton, & Brett Serviss
4:45 PM	9	An investigation of the death resistance mechanism of <i>Dictyostelium discoideum</i> on exposure to Zinc Oxide nanoparticles Zoya N. Faruqi & Mohammad Goodarzi

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**Session E – Math-Science: MS306**  
Engineering, Industrial Science & Technology

Time	Talk #	Title Author(s)
2:00 PM	52	Lunar Terrain Vehicle Alexandira Yang, Dylan Jetton, & Issair Rodriquez
2:15 PM	43	Computational Investigations of Advanced Materials: Insights from Molecular Dynamics and Density Functional Theory Robert A. Fleming
2:30 PM	44	Evaluation of Inflow Turbulent Generators in Computational Fluid Dynamics (CFD) Modeling Lionel Hewavitharana & R. Panneer Selvam
2:45 PM	45	The Autonomous Vehicle Challenge Chaarlee Hickman, Evan Piovesan, Han Tran, & Alex Tran
3:00 PM	46	The Development of Feasible Simple Biofuel Production Units for Mitigation of Accumulation of Greenhouse Gases and Climate Change John Bosco Namwamba, Kennedy Sitati Munyole, Yaw Twumasi, Nyatta, Benir Mbabasi, Festin Osimbo, Judith Oppong , & Caroline Akinrinwoye
3:15 PM	Short 15 MIN break	
3:30 PM	47	Enhancing Cognitive Development Insights: Leveraging Machine Learning in Android App Development for Children's Artistic Expression Arthur Rahming & Suzan Anwar
3:45 PM	48	Analyzing the Performance of Wood Ash Modified Asphalt Concrete Brandon Ravenscraft, Md Rashedul Islam, Lionel Hewavitharana, Mahbub Ahmed, & Abdel Bachri
4:00 PM	49	Analyzing the Impact of Socioeconomic Factors on Cancer Clinical Trials in the U.S. Using Machine Learning Krysta Ray, Hiromi Honda, Musfikur Rahaman, & Robin Ghosh
4:15 PM	50	Implementation of Wireless Induction Coil Charging Technology in Low Power Autonomous Vehicle Applications Patrick Simpson
4:30 PM	51	A Cloud-Integrated Mobile Application Utilizing Machine Learning for Alzheimer's Disease Risk Prediction Otito Udedibor & Suzan Anwar
4:45 PM	42	Assessment of Intravascular Volume Using Point of Care Ultrasound in the Management of Acute Kidney Injury in Cirrhosis Shallya Anand