

# ECOLOGICAL GENOMICS

# Symposium

## Poster Abstracts

October 28-30, 2016 · Marriott Country Club Plaza · Kansas City, Missouri

### Undergraduate Posters

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**Bacterial Motility Experimentally Evolves in Response to Chemoattractant Selection and Phage Predation**

Blazanin, Michael; Travisano, Michael

University of Minnesota—Twin Cities, Ecology, Evolution and Behavior (MB); University of Minnesota (MT)

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**Host cues establish selective conditions favoring the experimental evolution of avirulent agrobacterial cheaters**

Blazanin, Michael; Parish, Spencer; Platt, Thomas

Kansas State University, Biological Research Experience for Undergraduates (MB); Yale University (SP); Kansas State University, Division of Biology (TP)

3

**Genetic architecture of multi-trait adaptation to geothermal soils in yellow monkeyflowers of Yellowstone National Park**

Breigenzer, Peter; Finseth, Findley; Fishman, Lila

University of Montana, Division of Biological Services (PB); University of Montana, Division of Biological Services (FF); University of Montana, Division of Biological Services (LF)

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**Polyploidy and diversity in Phlox: unusual patterns of genome size in *P. nana* Nutt. (*Polemoniaceae*)**

Ladner, Jamie; Mayfield, Mark H.; Prather, Alan; Ferguson, Carolyn J.

Kansas State University, Herbarium and Division of Biology (JL); Kansas State University (MM); Michigan State University (AP); Kansas State University, Division of Biology (CF)

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**Differential enzyme and physiological response to heavy metal stress in mine and old field populations of *Andropogon virginicus***

Nielsen, Kara; Sharpe, Samantha; Johnson, Loretta

Grinnell College (KN); Kansas State University, Division of Biology (SS); Kansas State University, Division of Biology (LJ)

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**A comparison of the effects of continuous versus patchy geographic distributions on the structuring of genetic variation in two bat-pollinated, wind dispersed *Agave* species (*Agavaceae*)**

Swift, Joel; Lindsay, Denise; Jung, Michael; Lance, Richard; Edwards, Christine

Missouri Botanical Garden, Center for Conservation and Sustainable Development (JS); U.S. Army Engineer Research and Development Center (DL); U.S. Army Engineer Research and Development Center (MJ); U.S. Army Engineer Research and Development Center (RL); Missouri Botanical Garden, Center for Conservation and Sustainable Development (CE)

## All Other Posters

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### **The Effect of Entomophagous Pathogens *Beauveria bassiana* and *Metarhizium anisopliae* on *Helicoverpa zea* larval gene expression**

Alenezi, Munirah; Tobias, Terri; Hum-Musser, Sue M.; Musser, Richard  
Western Illinois University, Biological Science (MA); Western Illinois University (TT); Western Illinois University, Biological Science (SHM); Western Illinois University, Biological Science (RM)

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### **Differential Gene Expression of *Helicoverpa zea* (tomato fruitworm) in Response to Feeding on Different Types of Tomato (*Solanum lycopersicum*) Plant Tissues**

Al-Furaiji, Ammar; Bath, Donald; Hum-Musser, Sue; Musser, Richard  
Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (DB); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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### **Predicting Phenotypic and genotypic response to the dominant prairie grass *Andropogon gerardii* to climate change in the Central US grasslands**

Alsdurf, Jacob; Galliard, Matt; Knapp, Mary; Baer, Sara; Smith, Adam; Johnson, Loretta  
Kansas State University, Division of Biology (JA); Kansas State University, Division of Biology (MG); Kansas State University, Division of Biology (MK); Southern Illinois University (SB); Missouri Botanical Garden (AS); Kansas State University, Division of Biology (LJ)

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### **Effect of Plant Defense Hormones Jasmonate and Salicylate on Caterpillar Gene Expression**

Alsubaie, Faisal; Oluwabukola, Ajasa; Khalil, Imtiaz; Hum-Musser, Sue; Musser, Ricard  
Western Illinois University, Biological Sciences (FA); Western Illinois University, Biological Sciences (AO); Western Illinois University, Biological Sciences (IK); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Services (RM)

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### **What Perceptions and Contexts Underpin Ghana's BioEthical Challenges in the 21 Century?**

Asamoah, Akwasi  
Assart Rossy Co., Ltd., Kokote Innovations (AA)

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### **Oxygen transport in hydrogen sulfide-rich environments: myoglobin and hemoglobin gene expression and evolution**

Barts, Nicholas; Passow, Courtney; Greenway, Ryan; Kelley, Joanna; Tobler, Michi  
Kansas State University, Division of Biology (NB); University of Minnesota (CP); Kansas State University, Division of Biology (RG); Washington State University (JK); Kansas State University, Division of Biology (MT)

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### **Comparative analysis of generalist *Helicoverpa zea* expression and growth on diverse array of host plants**

Bath, Donald; Diveley, Kayleigh; Al-Furaiji, Ammar; Hum-Musser, Sue M.; Musser, Richard O.  
Western Illinois University, Biological Sciences (DB); Western Illinois University, Biological Sciences (KD); Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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### **Asymmetry matters: genomic assessment of directional bias in gene flow excludes the apparent influence of exogenous selection for the maintenance of a spruce hybrid zone**

De Lafontaine, Guillaume; Bousquet, Jean  
University of Illinois in Urbana-Champaign, Plant Biology (GD); Université Laval (JB)

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**Gene Expression Observed from the interaction between Corn Earworm (*Helicoverpa zea*) caterpillars and Corn (*Zea mays*) tissues**

Diveley, Kayleigh; Hum-Musser, Sue; Musser, Richard

Western Illinois University, Biological Sciences (KD); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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**Exploring Leaf Associated fungal Communities of Common Grassland Plants**

Ryan Estes

Kansas State University, Division of Biology (RE)

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**Dynamic shifts in the genetic architecture with age and across traits: Implications for evolutionary theories of aging**

Everman, Elizabeth R.; Delzeit, Jennifer; Morgan, Theodore J.

Kansas State University, Division of Biology (EE); Kansas State University (JD); Kansas State University, Division of Biology (TM)

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**Experimental Natural Selection of Big Bluestem Ecotypes Across the Great Plains: Evaluating Local Adaptation Under Realistic Conditions**

Galliard, Matt; St. Amand, Paul; Polland, Jesse; Bello, Nora; Knapp, Mary; Baer, Sara; Maricle, Brian; Johnson, Loretta  
Kansas State University, Division of Biology (MG); Kansas State University (PSA); Kansas State University (JP); Kansas State University (NB); Kansas State University (MK); Southern Illinois University (SB); Fort Hays State University (BM); Kansas State University, Division of Biology (LJ)

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**OXPHOS evolution and ecological speciation in toxic sulfide springs**

Greenway, Ryan; Kelley, Joanna; Tobler, Michael

Kansas State University, Division of Biology (RG); Washington State University (JK); Kansas State University, Division of Biology (MT)

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**Transcriptomic Expression in Tomato Plants in Response to Arbuscular Mycorrhizal Symbioses and Caterpillar Herbivory**

Khalil, MD Imtiaz; Barber, Nicolas; Al-Furaiji, Ammar; Hum-Musser, Sue; Musser, Richard

Western Illinois University, Biological Sciences (MIK); Western Illinois University, Biological Sciences (NB); Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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**Range genetics of eastern black cherry (*Prunus serotina* Ehrh. *Subsp. Serotina*) and its relationship to the rare Alabama cherry (*Prunus alabamensis* Mohr.)**

Konrade, Lauren; Beck, James; Shaw, Joey

Wichita State University, Biological Sciences (LK); Wichita State University (JB); University of Tennessee at Chattanooga (JS)

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**Species range limits, recombination rate variation, and chromosome inversions shape deleterious load in wild barley**

Lei, Li; Liu, Chaochih; Morrell, Peter

University of Minnesota, Agronomy and Plant Genetics (LL); University of Minnesota, Agronomy and Plant Genetics (CL); University of Minnesota, Agronomy and Plant Genetics (PM)

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**Genomic regulation of abiotic stress response in the soil nematode *Oscheius tipulae***

McGlynn, Riley; Darby, Brian

University of North Dakota, Biology (RM); University of North Dakota (BD)

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**High-throughput screening of microbial interactions with microwell arrays**

Platt, Tom; Hansen, Ryan

Kansas State University, Division of Biology (TP); Kansas State University, Department of Chemical Engineering (RH)

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**Genome Size Evolution in the Wild Sunflower *Genus Helianthus***

Qiu, Fan; Weston, Anastasia; Tetreault, Hannah; Whitney, Kenneth; Baack, Eric; Ungerer, Mark

Kansas State University, Division of Biology (FQ); Kansas State University, Division of Biology (AW); Kansas State University, Division of Biology (HT); University of New Mexico (KW); Luther College (EB); Kansas State University, Division of Biology (MU)

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**Gene expression of bacteria-inoculated soybean glycine max in response to heat stress**

Sairafi, Noor; Musser, Richard; Hum-Musser, Sue; Al-Furaiji, Ammar

Western Illinois University, Biological Sciences (NS); Western Illinois University, Biological Sciences (RM); Western Illinois University, Biological Sciences (SHM); Western Illinois University (AA)

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**Transcriptomic Expression in Tobacco Plants in response to Arbuscular Mycorrhizal Symbioses and Caterpillar Herbivory**

Sharbagi, Shereen; Khalil, Imtiaz; Hum-Musser, Sue; Barber, Nicholas; Musser, Richard

Western Illinois University, Biological Sciences (SS); Western Illinois University, Biological Sciences (IK); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (NB); Western Illinois University, Biological Sciences (RM)

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**Rapid adaptation in a contaminated environment: Evolutionary adaptive response of old field grass *Andropogon virginicus* to heavy metals in an abandoned lead and zinc mine**

Sharpe, Samantha; Humphrey, Paige; Parrish, Olivia; Johnson, Loretta

Kansas State University, Division of Biology (SS); Kansas State University, Division of Biology (PH); Kansas State University, Division of Biology (OP); Kansas State University, Division of Biology (LJ)

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**Identifying QTLs underlying phosphorus use in a resurrected *Daphnia* mapping population**

Sherman, Ryan; Baker, Kristina; Couger, Brian; Weider, Lawrence; Jeyasingh, Punidan

Oklahoma State University, Integrative Biology (RS); Oklahoma State University, Integrative Biology (KB); Oklahoma State University, High Performance Computing Center (BC); University of Oklahoma, Department of Biology, Program in Ecology and Evolutionary Biology (LW); Oklahoma State University, Department of Integrative Biology (PJ)

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**The genetics of visual attraction**

Westerman, Erica; Kronforst, Marcus

University of Arkansas, Biological Sciences (EW); University of Chicago (MK)