

**43rd Annual WKU Student Research Conference
March 23, 2013**



SESSION WINNERS

Graduate Paper Session 1: Business

Kyle O'Donnell Utilizing Energy Saving Performance to Position WKU as a Net-Zero Emissions Campus (Dr. Brian Sullivan)

Graduate Paper Session 2: Humanities and Interdisciplinary Studies

Logan Scisco The Duty of the Rich to Pay and the Poor to Use: Compulsory Education Laws in Gilded Age America (1866-1900) (Dr. Patricia Minter)

Graduate Paper Session 3: Humanities and Interdisciplinary Studies

Leslie Nichols Connections Through Time in Typewritten Portraits (Dr. Kristi Branham)

Graduate Paper Session 4: Natural Sciences

Elizabeth Tyrie Diffusion Tensor Imaging Analysis Using the Medical Image Processing and Visualization (MIPAV) Application (Prof. Leslie North); Additional Authors Alexandra Bokinsky, Justin Senseney, Julie McEntee, Dzung Pham, and Matthew McAuliffe

Graduate Paper Session 5: Natural Sciences

Linda Baizel Characterization of the Chesterian Big Clifty Tar Sand from Northern Warren County, Kentucky (Dr. Michael May)

Graduate Paper Session 6: Natural Sciences

Alexander Larin Intelligent Multi-Functional Artificial Olfactory System (Dr. Vladimir Dobrokhotov)

Graduate Paper Session 7: Humanities

Brandi Button Plain and Simple: The Will to Live Sustainably in an Unsustainable World (Dr. Jane Olmsted)

Graduate Paper Session 8: Natural Sciences

Amanda Seaton The Left Operon of Bacteriophage HK639 Is Essential for Viral Growth (Dr. Rodney King); Additional Author Rodney King

Graduate Paper Session 9: Natural Sciences

Nicholas Lawhon High-Resolution Monitoring of Winter Storm Responses of the Lost River Groundwater Basin, Kentucky (Dr. Chris Groves); Additional Author Jason Polk

Graduate Paper Session 10: Social Sciences/Services

Angela Byrd The Sick Role and End Stage Renal Disease (Dr. Jerry Daday)

Graduate Poster Session 1: Business, Humanities, and Interdisciplinary Studies

Joseph Kimeu Region-Based Athletic Performance: An Insight Into Positional Segregation in Professional Team Sports (Dr. Dennis Wilson)

Graduate Poster Session 2: Natural Sciences

Laura Osterhoudt and Kegan McClanahan Quantifying the Carbon Budget, Upper Green River Watershed, Kentucky (Dr. Jason Polk)

Graduate Poster Session 3: Natural Sciences

Yogesh Kherde Effects of Various Parameters on Tetracycline Assisted Synthesis of Gold Nanoparticles (Dr. Rajalingam Dakshinamurthy); Additional Authors Ashley McDade, Varavoot Siriyutwatana, and Dillon Pender

Graduate Poster Session 4: Social Sciences/Services

Kristen Ruga Perceived Personality Trait Alignment with Job Satisfaction (Dr. Tony Paquin)

Graduate Poster Session 5: Social Sciences/Services

Prachi Chavan Prevalence of Seat Belt and Booster Seat Among Drivers, Passengers and Children in Barren, Hart and Metcalfe County in Kentucky, USA, 2012 (Dr. Gretchen Macy); Additional Authors Vickie Poore, Scott Smith, and Gretchen Macy

Graduate Poster Session 6: Social Sciences/Services

Tessa Seidler Examining Energy Regulation as a Predictor of Gender Discrimination Responses (Dr. Amber Schroeder); Additional Authors Amber Schroeder and Cameron Lile

Graduate Poster Session 7: Natural Sciences

Divya Jyothi Lella Functionalization and Modification of Shikonin Compounds as HER2 Inhibitors (Dr. Cheryl Stevens)

Undergraduate Paper Session 1: Humanities

Haley Cade Gender in 20th Century European Art: The Denial of Traditional Gender Identity Through Ambiguity, Androgyny, and Criticized Gender Roles (Dr. Ingrid Cartwright)

Undergraduate Paper Session 2: Humanities

Ethan Morris Border State Complexities: Kentucky's Loyalties During the American Civil War (Dr. Glenn LaFantasie)

Undergraduate Paper Session 3: Natural Sciences

Joshua Slaton and Nathan Barzee Peel the Pup (Dr. Kevin Schmaltz); Additional Authors Kevin Schmaltz, Kevin Kappes, and Trey Spargo

Undergraduate Paper Session 4: Natural Sciences

Logan Eckler Molecular Dynamics and Quantum Mechanical Calculations of Aqueous Nitrate Solutions (Dr. Matthew Nee); Additional Author Matthew Nee

Undergraduate Paper Session 5: Natural Sciences

Jonathan Hendrie Characterization and Reaction of an Analog Anticancer Drug Oxaliplatin (Dr. Kevin Williams)

Undergraduate Paper Session 6: Natural Sciences

Brandon Farmer and Akhila Bethi Endothelin-1 Induces Phosphorylation of ERK1/2 in Bovine Corneal Endothelial Cells (Dr. Ken Crawford)

Undergraduate Paper Session 7: Humanities

Susan Taylor *The Prioress's Tale: A Matter of Redemption* (Dr. Alison Langdon)

Undergraduate Paper Session 8: Humanities

Robert Rabold Human Rights in the United States Constitutional Doctrine (Dr. Patricia Minter)

Undergraduate Paper Session 9: Natural Sciences

Jordan Olberding Creation of Transgenic UAS-NC1 *Drosophila melanogaster* (Dr. Ajay Srivastava); Additional Author Ajay Srivastava

Undergraduate Paper Session 10: Natural Sciences

Dillon Pender Green Synthesis, Characterization of Starch Gold Nanoparticles, and Its Application for Bacterial Identification (Dr. Raja Dakshinamurthy); Additional Authors Lakshmisri Vangala, Vivek Badwaik, Tejas Sangoi, and Rammohan Paripelly

Undergraduate Paper Session 11: Natural Sciences

Jordan Seng Ostracode Sieve Pore Morphology: Toward a Reliable Proxy for Paleosalinity in Bahamian Saline Lakes (Dr. Fred Siewers); Additional Author Rachel Bowles

Undergraduate Paper Session 12: Natural Sciences

Ashlan Clark Risks of Nocturnal Tornadoes in the Mid-South (Dr. Gregory Goodrich); Additional Author Gregory Goodrich

Undergraduate Paper Session 13: Social Sciences/Services

Amanda Cook Motivating WKU Students to Persist in General Chemistry (Dr. Lisa Duffin); Additional Authors Lisa Duffin, Shelby Overstreet, and Martha Day

Undergraduate Paper Session 14: Humanities and Interdisciplinary Studies

Kelsey Mattingly "Lord Keep Us Safe This Night": Religious Imagery in Depression-Era Kentucky Quilts (Dr. Guy Jordan)

Undergraduate Poster Session 1: Interdisciplinary

Dagan Dalton Defining a "Math Person" (Dr. Jennifer Cribbs); Additional Author Jennifer Cribbs

Undergraduate Poster Session 2: Business and Humanities

Hanna Demirjian The Evolution of 20th Century Fashion (Prof. Matthew Tullis)

Undergraduate Poster Session 3: Humanities

Christopher Mundy Pioneer Cartoonists (Prof. Matthew Tullis)

Undergraduate Poster Session 4: Humanities

Julie Washer Examining American Children's Book Illustrations (Prof. Matthew Tullis)

Undergraduate Poster Session 5: Natural Sciences

Charles Coomer Identification of Bacterial Contaminates and Evidence for Temperate Phages in Beerwell Samples From a Bioethanol Production Facility (Dr. Rodney King); Additional Author Rodney King

Undergraduate Poster Session 6: Natural Sciences

Connor VanMeter MyOTP, a Newly Discovered Mycobacteriophage From Bowling Green, Kentucky (Dr. Rodney King); Additional Authors Rodney King and Claire Rinehart

Undergraduate Poster Session 7: Natural Sciences

Corbin Allender and Grace Babbs Exploring Genetic Diversity By Isolating and Comparing Novel Bacteriophages (Dr. Rodney King); Additional Authors Rodney King and Claire Rinehart

Undergraduate Poster Session 8: Natural Sciences

Nick Cottrell Synthesis and Crystal Structure of a Two-Dimensional Metal-Organic Framework (Dr. Bangbo Yan); Additional Author Bangbo Yan

Undergraduate Poster Session 9: Natural Sciences

David Keltner and Andrew Johnson Accuracy and Precision Test Fixture for Evaluating a Range of Weapon Platforms (Dr. Joel Lenoir); Additional Authors Jake Doran and Evan Pitt

Undergraduate Poster Session 10: Natural Sciences

Micaela Montgomery and Jacob Fose Competition for Food Resources of the White Bass by Two Introduced Congeners in Barren River Lake (Dr. Philip Lienesch); Additional Author Philip Lienesch

Undergraduate Poster Session 11: Natural Sciences

Rachel Beyke and John Clark Eastern Black Rhino Home Range Activity Based on Human Disturbances (Dr. Michael Stokes)

Undergraduate Poster Session 12: Natural Sciences

Hannah Rodgers Single Step, Antibiotic Mediated Synthesis of Gold Nanoparticles with Potent Antimicrobial Activity (Dr. Rajalingam Dakshinamurthy); Additional Authors Rammohan Paripelly and Dillon Pender

Undergraduate Poster Session 13: Natural Sciences

Gretchen Walch A Newly Discovered Cluster E Mycobacteriophage Identified Through Genomic Analysis (Dr. Rodney King); Additional Authors Rodney King and Claire Rinehart

Undergraduate Poster Session 14: Natural Sciences

Mary Spraggs Properties of Cold Galactic Interstellar Clouds (Dr. Steven Gibson)

Undergraduate Poster Session 15: Natural Sciences

Amy Ni Effects of Growth Hormone (GH) Antagonist on Zebrafish Auditory Hair Cell Regeneration (Dr. Michael Smith); Additional Authors Mackenzie Perkins, Huifang Sun, and Michael Smith

Undergraduate Poster Session 16: Natural Sciences

Scotty Davis, II Identification of Short DNA Repeats and Their Functions in Mycobacteriophages (Dr. Claire Rinehart); Additional Author Claire Rinehart

Undergraduate Poster Session 17: Social Sciences/Services

Emma O'Grady and Charvinia Neblett No Tunes Allowed: Can Listening to Music Improve Your Exercise Performance? (Dr. Steven Wininger); Additional Author Steven Wininger

Undergraduate Poster Session 18: Social Sciences/Services

Caitlin Gover Analysis of House Bill One, the "Pill Mill Bill" (Dr. Gregory Ellis-Griffith)

Undergraduate Poster Session 19: Social Sciences/Services

Mary Higginson Honors Versus Non-Honors College Students: How Are They Different? (Dr. Steven Wininger); Additional Author Steven Wininger

Undergraduate Poster Session 20: Social Sciences/Services

Kathryn Drye Cross Sectional Analysis of Noise Regulations in Kentucky Cities with Populations > 25,000 (Mr. Jeffrey Barefoot)