

EURēCA

2014 EURēCA Awardees

The university offers undergraduates the opportunity to reach beyond the classroom to pursue the excitement of original research and creative projects. Every spring, the Office of Research & Engagement organizes the Exhibition of Undergraduate Research and Creative Achievement (EURēCA) — a two-day exhibition and performance event for students.

In addition to divisional awards, projects judged to be the best overall are recognized with the **Phi Kappa Phi National Honor Society Award**, the **William Franklin Harris III Undergraduate Research Award**, the **Sustainability Award**, and the **Office of Research and Engagement's Undergraduate Research Excellence Award (gold, silver and bronze)**.

TOP AWARDS

PHI KAPPA PHI BEST OF SHOW AWARDS

Student	Project Title	Faculty Mentor
Olivia Jean Crisp	Genetic Resistance to <i>Staphylococcus aureus</i> Mastitis in Bovine CXCR1	Pighetti, Gina
Carson Hayes, Piano	<i>Études-Tableaux, Opus 39, No. V (Sergei Rachmaninoff)</i>	David Northington

WILLIAM FRANKLIN HARRIS III UNDERGRADUATE RESEARCH AWARD

Stephanie Kerrigan, Tyler Stanley, Grant Davis, Sean Knox	UAV Photogrammetric Surveying	Freeland, Robert S
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SUSTAINABILITY AWARD

Matthew Barnett, Zane Espinosa	Knoxville Urban Market + Culinary School	Stevens, Kevin
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ORE AWARDS OF UNDERGRADUATE RESEARCH EXCELLENCE AWARDS

NATURAL SCIENCES

GOLD – Olivia Jean Crisp	Genetic Resistance to Staphylococcus aureus Mastitis in Bovine CXCR1	Pighetti, Gina
SILVER – Casey Gunn Martin	Development of Microbial Community Structure Based Databases for Fecal and Soil Source Identification in Rural Watersheds	Layton, Alice Camille
SILVER – Dixie Ann Daniels	To the victor go the spoils: Identifying fungal pathogens associated with walnut twig beetle, a vector of Thousand Cankers Disease complex	Hadziabdic-Guerry, Denita
BRONZE – Noor K. Alshibli	Phylochipm Microarray Analysis of Microbial Communities in Deep-Sea Environments and Potential Implications for Hydrocarbon Spills	Hazen, Terry C
BRONZE – Kaela O'Dell	Lignin-degrading bacteria from the Mediterranean Sea	Hazen, Terry C

SOCIAL SCIENCES

GOLD – Chelsea Stanfill	Effectiveness of Career Focused Small Learning Communities on Academic Performance among High School Students	Lee, Sungkyu
SILVER – Allison Stark Haywood	Exploring and Understanding Experiences and Developmental Stages of Healthy Siblings of Pediatric Oncology Patients	Chyka, Deb

SILVER – Penny Hembree	Genetic and Physical Activity Influences on Weight Status in Obese, Prepubertal African American Children	Coe, Dawn Podulka
BRONZE – Matthew Francis Singh	Bayes, Brains, and Babies: Electrophysiology and Mathematics of Infant Holistic Processing and Selective Inhibition.	Reynolds, Greg
BRONZE – Cameron King, Mark Crosswell, Abby DeBusk, Sarah Harder	Benefits of Evidence-Based Discharge Planning	Thompson, Kathleen
ART, ARCHITECTURE AND DESIGN, HUMANITIES AND PERFORMING ARTS		
GOLD – Haley Elaine Hudgins, Sarah Elizabeth Smith, Brayán Guzmán Zavala, Kaitlyn Marie Shaw	Interactive Debriefing Application	Lowe, Sarah
SILVER – Allen Griffith Wilson	Augustine, Wannabe Philosopher: the Cultivation of Philosophical Asceticism in the Career of Augustine of Hippo	Lafferty, Maura
BRONZE – Hannah Daniel, Melissa Dooley	Live Micro in the District: Micro-Unit Housing in Downtown Nashville	Davis, Thomas K
ENGINEERING		
GOLD – Stephanie Kerrigan, Tyler Stanley, Grant Davis, Sean Knox	UAV Photogrammetric Surveying	Freeland, Robert S
SILVER – Kelli Byrne	Electrochemical Characterization of Cu-Based Non-Precious Metal Catalysts for the Oxygen Reduction Reaction in Low Temperature Fuel Cells	Zawodzinski, Thomas Anthony

BRONZE – James Michael Ghawaly Jr.	A Bayesian Approach to Broad-Area Nuclear/Radiological Operations	Hall, Howard Lewis
BUSINESS		
GOLD – Nathaniel Martin Massey	Who Used the Cash from Cash for Clunkers?	Compton, Benjamin Hasty
SILVER – Kerri Elena Moore	There Will Be Blood	Daves, Phillip R
BRONZE – Andrew Anderson	Debt Issuer Stipulations: How Bond Covenants Affect Bond Ratings and Yield Spreads	Craig, Karen Ann
DIVISION AWARDS		
Student	Project Title	Faculty Mentor
ENGINEERING		
Stephanie Kerrigan, Tyler Stanley, Grant Davis, Sean Knox	UAV Photogrammetric Surveying	Freeland, Robert S
Christian Gregory Wiberley, Coleman Knox Bradley, Hunter Lee Hill	Plot Scale Switchgrass Harvester	Hart, William E
Kelli Byrne	Electrochemical Characterization of Cu-Based Non-Precious Metal Catalysts for the Oxygen Reduction Reaction in Low Temperature Fuel Cells	Zawodzinski, Thomas Anthony
Yi Ying Chin	Rebinding and Spatiotemporal Correlations in Cell Signaling Networks	Abel, Steven Matthew
James Michael Ghawaly Jr.	A Bayesian Approach to Broad-Area	Hall, Howard Lewis

Nuclear/Radiological
Operations

AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Devarshi Ardeshta, Samantha Brown	Heat Shock Enhanced Conjugation in Campylobacter	Lin, Jun
Alexander Lee Houck	Understanding the role of PSAP in apoptosis and gamma-secretase cleavage	Xu, Xuemin
Lindsay Elizabeth Rogerson	Extraction of Phenolics from Oak	Zivanovic, Svetlana
Olivia Jean Crisp	Genetic Resistance to Staphylococcus aureus Mastitis in Bovine CXCR1	Pighetti, Gina
Dixie Ann Daniels	To the vector go the spoils: Identifying fungal pathogens associated with walnut twig beetle, a vector of Thousand Cankers Disease complex	Hadziabdic-Guerry, Denita

ARTS AND SCIENCES

Noor K. Alshibli	Phylochip [™] Microarray Analysis of Microbial Communities in Deep-Sea Environments and Potential Implications for Hydrocarbon Spills	Hazen, Terry C
Robert Connell	Redirecting directed dispersal in an ant-myrmecochore system: Addressing the uniqueness of microsites near ant nests in an eastern North American forest	Kwit, Charles
Casey Gunn Martin	Development of Microbial Community Structure Based Databases for Fecal and Soil	Layton, Alice Camille

	Source	Identification in Rural Watersheds	
Su'ad A. Yoon	Consequences of Alien Plant Invasion on Lepidoptera Fauna: A Global Meta-Analysis	Plant	Fordyce, James A.
Melissa Ann Lee	MicroRNA Regulation of Tet-Related Memory Formation		Prosser, Rebecca A
Brian Poore, Alexander Parrott, Chuhnui Bao	Synthesis and Characterization of a Hairy Particle Acid Catalyst for Dehydration of Fructose to 5-Hydroxymethylfurfural in Water		Zhao, Bin
Tami Laurene Banks	Analysis of Quartz Grain Deformation Along the Llanganuco Canyon of the Cordillera Blanca Fault, Peru	Grain	Jessup, Micah John
Allen Griffith Wilson	Augustine, Wannabe Philosopher: the Cultivation of Philosophical Asceticism in the Career of Augustine of Hippo		Lafferty, Maura
Norma Carolina Miselem	History and Analysis of French Contributions to Space Exploration		Dubreil, Sebastien
Matthew Francis Singh	Bayes, Brains, and Babies: Electrophysiology and Mathematics of Infant Processing and Selective Inhibition.	Holistic	Reynolds, Greg
Sara Hamza	Migrant Labor in the Gulf States: The Case of Dubai, UAE	Arabian	Hepner, Tricia M Redeker

Elisabeth Pitt, Pranay Dogra	Co-infection with wild type and chemokine (kc) overexpressing murine cytomegaloviruses relieves a salivary gland dissemination blockade.	Sparer, Timothy E
Amber Bassett	FRET-based Analysis of the Transit Peptide in vitro Interaction with TOC34	Bruce, Barry D
Kaela O'Dell	Lignin-degrading bacteria from the Mediterranean Sea	Hazen, Terry C

SOCIAL WORK

Chelsea Stanfill	Effectiveness of Career Focused Small Learning Communities on Academic Performance among High School Students	Lee, Sungkyu
LaKiera Denay Grimes	Determining Characteristics of Single Homeless Women	Lee, Sungkyu
Laura Walden	Comparing Effectiveness of Community Schools with Public Schools in Regards to Student Behaviors, Standardized Test Scores, Attitudes about School, and Attendance	Lee, Sungkyu

EDUCATION, HEALTH AND HUMAN SCIENCES

Penny Hembree	Genetic and Physical Activity Influences on Weight Status in Obese, Prepubertal African American Children	Coe, Dawn Podulka
Delia M.A. Clemmons	What do they know and how useful is it? Sex education and knowledge among college freshman.	Olmstead, Spencer

Elizabeth MacKenzie Sherrill	Regulation of Chemokine Gene Transcription by Novel Glucocorticoid Receptor Modulators	Collier, Jason
BUSINESS ADMINISTRATION		
Cristopher Kieth Manka	A CEO's Effect on Headquarter Relocation	Chyz, James Anthony
Ashley Hannah Stewart	Goodwill, Good Riddance? How New Executives Affect Goodwill Write-Offs	Behn, Bruce K
Ashley Coke	Reinventing Insurance Claims: A Business Plan	Graves, Thomas Houston
Laura Ellen Bassett	Recovery or Bust: Is the Eurozone Recovering More Slowly Than the Rest of the European Union?	Baker, Kenneth Howell
Andrew Anderson	Debt Issuer Stipulations: How Bond Covenants Affect Bond Ratings and Yield Spreads	Craig, Karen Ann
Kerri Elena Moore	There Will Be Blood	Daves, Phillip R
Cassidy Webster	Materialistic Mindset? Perception of Purchasing From Secondary Channels	Daves, Phillip R
Thien Aiden Mai	Sexual Orientation & Wages	Wanamaker, Marianne H
Nathaniel Martin Massey	Who Used the Cash from Cash for Clunkers?	Compton, Benjamin Hasty
Kyle Leon West	mHealth: A Contemporary and Comprehensive Look at Emerging Technologies in Mobile Health	Noon, Charles E

NURSING

Cameron King, Mark Crosswell, Abby DeBusk, Sarah Harder	Benefits of Evidence-Based Discharge Planning	Thompson, Kathleen
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Allison Haywood Stark	Exploring and Understanding Experiences and Developmental Stages of Healthy Siblings of Pediatric Oncology Patients	Chyka, Deb
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Mary Ellen McNeal, Josh Carico, Serena Haroouchi, Joely Moctezuma	Hand Hygiene: What about the Patient? Recommendations for Methods and Implementation	Thompson, Kathleen
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COMMUNICATIONS AND INFORMATION

Alan Robert Veronesi	Big Orange, Army Strong	Heller, Robert B
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David Fox McCarville	Between the Stacks	Heller, Robert B
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Sarah Kinder Zimmerman	EcoCAR 2 Outreach	Fall, Lisa
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ARCHITECTURE AND DESIGN

Jarod Dotson, Matthew Barnett, Thomas Agee, Melissa Dooley	Skeen Residence	Davis, Marleen Kay
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Hannah Daniel, Melissa Dooley	Live Micro in the District: Micro-Unit Housing in Downtown Nashville	Davis, Thomas K
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Dillon Joseph Canfield	Establishing Place: An Orchard for Norris Tennessee	Wall, Scott Wheland
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ART

Haley Elaine Hudgins, Sarah Elizabeth Smith, Brayan Guzman Zavala, Kaitlyn Marie Shaw	Interactive Debriefing Application	Lowe, Sarah
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Allen B Johnson	School of Art- Sculpture Commission at the Knoxville Zoo	Staples, Carolyn I
Lauren Nicole Beale	American Ghosts	Lee, Baldwin S
MUSIC		
Carson Hayes, Piano	<i>Études–Tableaux, Opus 39, No. V (Sergei Rachmaninoff)</i>	David Northington
Yi-Ting Huang, Piano	<i>Morceaux de fantaisie (Sergei Rachmaninoff)</i>	Fay Adams
Ryan Bright, Mark Cook, Jake Lane, Nick Lloyd, Nathan Williamson	<i>Strange Humors (John Mackey)</i>	Allison Adams