

EURēCA 2016 Event

The 20th Exhibition of Undergraduate Research and Creative Achievement (EURēCA) took place April 11-15, 2016 in Hodges Library. Students from across the university entered their undergraduate research, senior design projects, clinical projects, and creative achievements for judging. From 247 entries, 88 received recognition at the EURēCA Awards night.

In addition to divisional awards, projects judged to be the best overall are recognized with 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)**.

7 Gold ORE Undergraduate Research Excellence Awards

Student Name	Project Title	Faculty Mentor	Category
Alexis Burnham	Identifying genetic factors in <i>Streptococcus uberis</i> that enable evasion of the host immune response	Gina Pighetti	Natural Sciences and Agriculture
William Dunn	Knoxville Architecture Senior High School: Sewing the Fabric of Place	Julie Beckman	Architecture and Design
Emmitt Turner	Changes in HIV over time for the east region of Tennessee	Laurie Meschke	Nursing, Health, and Human Sciences
Jenny Patel & Madeline Standbridge	A Comparative Study of Cellular Calcification within the Male and Female Aortic Valves	Zannatul Ferdous	Engineering

Shaun Mccomas	The Homeless and Civilians Legal Assistance Initiative: An Outcomes Evaluation	Sunha Choi	Social Science, Social Work, Education, Communication, and Humanities
Rachel Van Deventer	Evaluating Prediction Models for Targeting Product Reviewers	Michel Ballings	Business
Quentin Eastridge & Erik Vass	Health Information Technology & Simulation Lab: Interactive Debriefing Application (IDA)	Sarah Lowe	Art and Performing Arts

8 Silver ORE Undergraduate Research Excellence Awards

Student Name	Project Title	Faculty Mentor	Category
Christina Lulich	Scalar Conflict: Perceiving Truth Through Contradiction	Tricia Stuth	Architecture and Design
Grace Wholley	Word Learning in Quiet and in Noise	Jessica Hay	Social Science, Social Work, Education, Communication, and Humanities
Chad Melton	Photometry of Scattered Disk Objects at 3.6 μm and 4.5 μm	Joshua Emery	Natural Sciences and Agriculture
Rebecca Fong	Stability of Phosphatidylserine in the Membrane of Yeast	Todd Reynolds	Natural Sciences and Agriculture

Hayden Jordan, Taylor Overton & Jonathan Yoder	Calf Bottle Monitoring System	John Wilkerson	Engineering
Adaya Kirk	Audience, Content, Media: Factors to Consider When Designing Technology Based Asthma Education Programs for Children	Tami Wyatt	Nursing, Health, and Human Sciences
Timothy Cook	Swiss National Bank Information Leakage	Andy Puckett	Business
Benjamin Maxey & Tom Foltz	Bonne Chance, Language Learning and Visual Coding	Cary Staples	Art and Performing Arts

8 Bronze ORE Undergraduate Research Excellence Awards

Student Name	Project Title	Faculty Mentor	Category
Samuel Denney, Justice Halfacre, and Timothy Jackson	Impact of Grape Seed Extract on Sensory Characteristics of Leafy, Green Vegetables	Francine Hollis	Bronze ORE Undergraduate Research Excellence Award in Natural Sciences and Agriculture
Mustapha Williams	ONE KNOXville	Marleen Davis	Architecture and Design

Molly Cross	The Cultural Phenomenon of the Working Man: A Historical Analysis of Theatrical Masculinity	Misty Anderson	Social Science, Social Work, Education, Communication, and Humanities
Brooke Pearson	“External Forcing Factors that Affect Torque Resistance Among Hardwood and Softwood Species, Norris Dam State Park, Tennessee, U.S.A.”	Henri Grissino-Mayer	Natural Sciences and Agriculture
William Hoskins	Effect of Heat Treatment and Chemical Composition on the High Temperature Hydrogen Attack (HTHA) Resistance of C-½ Mo Steels	Carl Lundin	Engineering
Ashley Dykes, Warren Bryant, Hiro Yamada and Jacob Barron	Early Mobilization of Mechanically Ventilated Patients	Kathleen Thompson	Nursing, Health, and Human Sciences
Wayne Taylor	Guess who’s being your mentor? A photo elicitation study of mentorships to minority aspirant Certified Professional Accountants.	Anne Smith	Business
Thomas Foltz	Pupil, Learning Disabilities and the importance of Empathy	Sarah Lowe	Art and Performing Arts

College Winners

College of Agricultural and Natural Resources

Student Name	Project Title	Faculty Mentor	Place
Alexis Burnham	Identifying genetic factors in Streptococcus uberis that enable evasion of the host immune response	Pighetti, Gina	First Place
Samuel Denney, Justice Halfacre, & Timothy Jackson	Impact of Grape Seed Extract on Sensory Characteristics of Leafy, Green Vegetables	Hollis, Francine	Second Place
Kaitlyn Shields	Measuring School-Based Agriculture Education Total Program Success: Classroom, FFA, and SAE	Stripling, Christopher	Third Place
Kelsey Ritter	Elucidating the Toxic Effects of Silver and Copper Nanoparticles on Onchocerca mykiss	Strange, Richard	Honorable Mention
Christina Kihm	Auxin signaling mutants iaa3 and iaa17 enhance plant resistance to cyst nematode parasitism	Hewezi, Tarek	Honorable Mention
Nicole Talley	Evaluation of fungal endophytes and inoculation methods in Vigna unguiculata	Butler, David	Honorable Mention

Sarah Alouani	Exploring Granuloma Formation in Johne's Disease	Eda, Shigetoshi	Honorable Mention
Tammy Stackhouse	Overexpression of the PpJAZ1 Gene in Camelina sativa for Cleistogamy	Liu, Wusheng	Honorable Mention

College of Architecture and Design

Student Name	Project Title	Faculty Mentor	Place
Angela Claeys & Hannah Margush	(Hear... There)	Mullikin, Lisa	Honor Award
David Berry	Seeking Silence, The Great Salt Lake Desert	Stuth, Tricia	Honor Award
Kristia Bravo, Alexis Jolley & Cayla Adams	Orchestration	Teston, Liz	Honor Award
Macvan Scott & Caleb Brothers	Transformative Production – Applying Sustainable Design to the Old City	Stevens, Kevin	Office of Sustainability Award

College of Arts & Sciences

Student Name	Project Title	Faculty Mentor	Place
Ashton Clark & Christina Thiessen	Emotional Intelligence, Relationship Satisfaction, and ADHD in Emerging Adults	Bolden, Jenn	First Place, Social Sciences

Rebecca Shrem	Use of process analogies to enhance student learning	Jain, Nitin	First Place, Social Sciences
Grace Wholley	Word Learning in Quiet and in Noise	Hay, Jessica	First Place, Social Sciences
Preston Mitchell	Undergraduate Student Motivations for Choosing a Science, Technology, Engineering, or Mathematics (STEM) Major	Van Riemsdijk, Micheline	Honorable Mention, Social Sciences
Hudson Kelley & Michael Hazelton	Folk Economic Geography: Pricing Private Parking on Game Day in Fort Sanders, Knoxville	Foresta, Ronald	Honorable Mention, Social Sciences
Stephanie Smith & Jerika Norona	Impulsivity and the Dissolution of Romantic Relationships	Welsh, Deborah	Honorable Mention, Social Sciences
Molly Cross	The Cultural Phenomenon of the Working Man: A Historical Analysis of Theatrical Masculinity	Anderson, Misty	First Place, Humanities
Honor Lundt	Female Warriors: Judith, Grendel's Mother, and Gender Roles in Anglo-Saxon England	Mackenzie, Scott	First Place, Humanities

Stephanie Bullock, Kiernan Bensey, Jacob Gross, Erik Vass & Alyssa Gauci	Bonne Chance	Dubreil, Sebastien	Honorable Mention, Humanities
Melissa Quarles	Klezmer Music and Identity	Golden, Rachel	Honorable Mention, Humanities
Chad Melton	Photometry of Scattered Disk Objects at 3.6 um and 4.5 um	Emery, Joshua	First Place, Physical Sciences
Louis Varriano	Neutron-mirror neutron oscillations in a residual gas environment	Kamyshkov, Yuri	First Place, Physical Sciences
Scott Eckley	Uncommon Diogenitic Troilite-Orthopyroxene Melt Texture: 2-phase Symplectite Found in Diogenite NWA 10451	McSween, Harry	Honorable Mention, Physical Sciences
Aaron Stubblefield	Kinematic Vorticity Analysis of the Cordillera Blanca Shear Zone	Jessup, Micah	Honorable Mention, Physical Sciences
Devin Williams	Scoring Human Decomposition from Photographs: A Validation Study	Mundorff, Amy	First Place, Ecology and Evolutionary Biology

Han Cho	Determine prevalence and transmission of <i>Toxoplasma gondii</i> in Amazon Natives	Su, Chunlei	First Place, Ecology and Evolutionary Biology
Brooke Pearson	“External Forcing Factors that Affect Torque Resistance Among Hardwood and Softwood Species, Norris Dam State Park, Tennessee, U.S.A.”	Grissino-Mayer, Henri	First Place, Ecology and Evolutionary Biology
Sheridan Brewer	Isolation and Characterization of Anaerobic Microbial Communities from Hydraulic Fracturing Fluids	Hazen, Terry	Honorable Mention, Ecology and Evolutionary Biology
Connor Vermilyea	Validation of the use of Terrestrial Laser Scanning (TLS) of 3-D forest structure of Miombo Woodlands in Niassa National Reserve	Washington-Allen, Robert	Honorable Mention, Ecology and Evolutionary Biology
Sarah Ottinger	Plant selection of mycorrhizal symbionts in response to abiotic stress	Classen, Aimee	Honorable Mention, Ecology and Evolutionary Biology
Amina Naantaanbuu-Jones	Exploring LRP-1 Expression in the Suprachiasmatic Nucleus as a Regulator of the Mammalian Circadian Clock	Prosser, Rebecca	First Place, Cellular and Molecular Biology

Kelly Arnholt	Evaluation of Cellulose Nanocrystal Toxicity Using the Bioreporter <i>E. coli</i> 652T7	Ripp, Steven	First Place, Cellular and Molecular Biology
Clayton Nunn	Sub-cellular localization of <i>Arabidopsis thaliana</i> NIP2;1 major intrinsic protein, and its effects on hypoxic stress survivability	Roberts, Daniel	First Place, Cellular and Molecular Biology
Rebecca Fong	Stability of Phosphatidylserine in the Membrane of Yeast	Reynolds, Todd	First Place, Cellular and Molecular Biology
Megan Landon	Validation of LRRK2 homology models and discovery of novel inhibitors	Smith, Jeremy	Honorable Mention, Cellular and Molecular Biology
Sahba Seddighi	Cellular mechanisms by which social status alters behavioral responses to stress	Cooper, Matthew	Honorable Mention, Cellular and Molecular Biology
Abbigail Stidham	Induced Programmed Cell Death (PCD) in the Presence of E93	Park, Jae	Honorable Mention, Cellular and Molecular Biology

Akshita Patel	Characterization of Nicotiana benthamiana Plants Overexpressing ISE2	Burch-Smith, Tessa	Honorable Mention, Cellular and Molecular Biology
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School of Art, College of Arts & Sciences

Student Name	Project Title	Faculty Mentor	Place
Santiago Ortiz-Piazuelo	The Confluence of Language and Its Significance Through Visual Exploration	Lyons, Beauvais	First Place
Kiernan Bensey	Sensory Code	Lukens, Jon	First Place
Jia Liang	“Bonne Chance” mobile version	Staples, Cary	Third Place

School of Music, College of Arts & Sciences

Student Name	Project Title	Faculty Mentor	Place
Rebecca Percy, Flute	<i>Fantaisie</i> (Georges Hüe)	Binder, Shelley	First
Paul Royse, Piano	<i>Synoptic Connections</i> (Paul Royse)	Adams, Fay	Second
Jared Hopland, Kevin O’Bryan & Brianna Stock, Marimba	<i>Home by Sundown</i> (Ralph Hicks)	Bliss, Andrew	Third

Haslam College of Business

Student Name	Project Title	Faculty Mentor	Place
Samantha Herold	A Material(ity) World: A Content Analysis of CSR Reporting Strategies of the Food & Beverage and Automotive Industries	Mollenkopf, Diane	First Place
Thomas Zyer	Thinking and Feeling: The Difference in Strategies of Pharmaceutical Advertising	Schumann, David	First Place
Kaitlin Waters	Brand Positioning vs. Employee Behavior: How Customer Service Affects Brand Perception	Zablah, Alex	Third Place
Benjamin Davis	Understanding the Retail Investor: Fundamental and Technical Analysis	Flint, Daniel	Honorable Mention
Piper Davis	How Do Sharing Economy Companies Grow? A Comparison of Internal and External Growth Patterns of Airbnb and Uber	Smith, Anne	Honorable Mention

College of Communication and Information

Student Name	Project Title	Faculty Mentor	Place
Steven Woods	Understanding Trends in Social Media Advertising from the Agency Perspective	Childers, Courtney	First Place
Alexander Wade	Kanye West: The Brand	Childers, Courtney	Second Place

College of Education, Health, and Human Sciences

Student Name	Project Title	Faculty Mentor	Place
Emmitt Turner	Changes in HIV over time for the east region of Tennessee	Meschke, Laurie	First Place
Natalie Bennett	Inactivation of Pyruvate Dehydrogenase Mediates Decreased Butyrate Oxidation in Colorectal Cancer Cells	Donohoe, Dallas	Second Place
Joshua Anderson	Physical Activity and Cognition in Preschool Children	Coe, Dawn	Third Place
Stephanie Eddy	Habituation Rate to Foods of Differing Fat and Sugar Content in Healthy Weight Women	Raynor, Hollie	Honorable Mention
Madeline Hayes	Arachnoid Cyst Surgical Treatment: A Meta Analysis of the Current Literature	TerMaath, Stephanie	Honorable Mention

College of Engineering

Student Name	Project Title	Faculty Mentor	Place
Jenny Patel & Madeline Standbridge	A Comparative Study of Cellular Calcification within the Male and Female Aortic Valves	Ferdous, Zannatul	First Place, Research
Hayden Jordan, Taylor Overton & Jonathan Yoder	Calf Bottle Monitoring System	Wilkerson, John	First Place, Design
William Hoskins	Effect of Heat Treatment and Chemical Composition on the High Temperature Hydrogen Attack (HTHA) Resistance of C-½ Mo Steels	Lundin, Carl	Second Place, Research
James Ghawaly	Development of a Radioisotope Identification Algorithm for Gamma Spectra with a Low Energy Signal-to-noise Ratio	Hall, Howard	Third Place, Research
Aaron Sheppard, Matthew McCarter, Colin Szklarski, Trevor Cloar, Colten Stephens & Alex Kiser	Engineering Appalachia: A New Bridge at Red Bird Mission	Retherford, Jenny	Second Place, Design
James Swart, Parker Dulin & Payton Smith	RSWaTS: Rural School Wastewater Treatment System	Buchanan, John	Third Place, Design

Brandon Wilbanks	Biofuel Production in Modular Escherichia coli	Trinh, Cong	Honorable Mention
Mikayla Ehram	Investigation of Thin Film Silver Deposition inside Hollow Polymer Cylinders	Kalyanaraman, Ramakrishnan	Honorable Mention
Samira Ibrahim	Robust and Cost Efficient Method for Fabrication of Tungsten Tips for Scanning Tunneling Microscopy	Mukherjee, Dibyendu	Honorable Mention
Evan Boone	Incorporating Bioinspired Building Blocks into Conjugated Polymers for Organic Electronic Applications	Kilbey, Michael	Honorable Mention

College of Nursing

Student Name	Project Title	Faculty Mentor	Place
Ashley Dykes, Warren Bryant, Hiro Yamada & Jacob Barron	Early Mobilization of Mechanically Ventilated Patients	Thompson, Kathleen	First Place
Trevor Rogers, Brianna Geist, Rachel Cupp, Hunter Brooks, & Halie Lemasters	Vaccines, Education, and Economic Status: A Proposed Quantitative Study	Swift, Shelia	Second Place

Samantha Carley, Amy Larsh, Sharon Caddy & Kathryn Barnes	Tradition vs. Evidence-Based Practice in ICU Visitation Policies	Thompson, Kathleen	Third Place
Adaya Kirk	Audience, Content, Media: Factors to Consider When Designing Technology Based Asthma Education Programs for Children	Wyatt, Tami	First Place
Benjamin Woodward	Unit level Changes in Central Line-Associated Bloodstream Infection Before and After Implementation of the Affordable Care Act and Mandatory Reporting Legislation	Umberger, Reba	Second Place
Hannah Yoder	Cultural and situational risk factors that determine Black women's experiences of antenatal care	Hardy, Lynda	Third Place
Neely Celsor, Caitlin Beaman, Lee Wayland & Anna Whitworth	The Effectiveness Of Patient Education With Technological Resources Versus Patient Education With Traditional Paper Handouts on Hospital Readmission Rates	Thompson, Kathleen	Honorable Mention
Lauren Gilletti, Shalini Patel, Tonya Denton & Emily Salomon	Cystic Fibrosis: Transition Education from Pediatric to Adult Medical Care	Thompson, Kathleen	Honorable Mention

College of Social Work

Student Name	Project Title	Faculty Mentor	Place
Shaun Mccomas	The Homeless and Civilians Legal Assistance Initiative: An Outcomes Evaluation	Choi, Sunha	First Place
Jessica Catlin	HIV Medication Compliance and Patient Satisfaction	Choi, Sunha	Second Place
Andrea Brennan	Reunification Rate of Drug Exposed Children in Custody with the Department of Children's Services, Knox County	Choi, Sunha	Third Place