

EURēCA 2015 Event

The University of Tennessee offers undergraduates the opportunity to reach beyond the classroom to pursue the excitement of original research and creative projects. Every spring, the Office of Undergraduate Research and the Research & Engagement organizes the Exhibition of Undergraduate Research and Creative Achievement (EURēCA) — a multi-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)**.

2015 Winners

Phi Kappa Phi Honor Society Best of Show Winners are listed first. All remaining awards are listed by College. The ORE Undergraduate Research Excellence Awards were awarded at the Gold (\$600), Silver (\$400), and Bronze (\$200) level across seven broad, cross-college subject area. Each college also awarded a variety of awards ranging from first place to honorable mention. The College of Architecture and Design and the School of Art awarded the same level of award to all winners. The William Franklin Harris III Undergraduate Research Award was presented to a project that showed innovation through research.

Phi Kappa Phi Honor Society Best of Show Award

Student Name	Department	Project Title	Faculty Mentor
Chloe Bliton	Psychology	Emotion Dysregulation, Gender, and Intimate Partner Violence Perpetration: An Exploratory Study	Gregory Stuart
David Morse	College Scholars Honors	The Interaction of Cytotoxins and Intermetallic Nanoparticles With Lipid Membranes	Dibyendu Mukherjee
Wesley Carroll, Piano	Music	<i>Scherzo No. 2, Opus 31 in Bb minor</i> by Frederic Chopin	Fay Adams

College of Agricultural Science and Natural Resources

Student Name	Department	Project Title	Faculty Mentor	Award
Carson Lillard; Reilly Jackson, Benjamin Wilson	Forestry, Wildlife/Fisheries	TEMPERATURE DRIVES SUSCEPTIBILITY OF EASTERN HELLBENDER LARVAE TO RANAVIRUS	Mathew Gray	Second place, College of Agriculture and Natural Resources
Devarshi Ardesna	Interdisciplinary Programs	Identification of high frequency conjugation factors in Campylobacter jejuni	Jun Lin	Honorable Mention, College of Agriculture and Natural Resources
Jessie Richards; Manasi Balachandran	Animal Science- Veterinary Medc	Serological diagnosis of Parelaphostrongylus tenuis infection	Stephen Kania	Bronze ORE Undergraduate Research Excellence Award in Natural Sciences; First place, College of Agriculture and Natural Resources
Mary Iannuzzi; Miles Ownby, Austin Sanders, Andrew Lynch	Biosystems Engr/Soil Science	Facilitated ROPS Installation When Moving From Obstructed to Open Terrain	Paul Ayers	Honorable Mention, College of Agriculture and Natural Resources

Mikayla Goodman	Food Technology and Science	Chenopodium berlandieri: Characterization and Importance of Exhibited Antimicrobial Properties	Kimberly Gwinn	Bronze ORE Undergraduate Research Excellence Award in Natural Sciences; First place, College of Agriculture and Natural Resources
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College of Architecture and Design

Student Name	Department	Project Title	Faculty Mentor	Award
Anna Biggs	Architecture	Cabinet of Curiosities	Brian Ambroziak	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award
Daniel Allen	Architecture	Knoxville Medium-Mega Superscape	Keith Kaseman	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award

Garrett Nelli; Andrew Ariola	Architecture	Red Bird Water Kiosk _ Clean Water Clean Life	John McRae	Silver ORE Undergraduate Research Excellence Award in Art, Architecture and Design, and Performing Arts
Geoffrey Cavalier; Paul Attea; Matthew Barnett ; Irene Chang; Jean Baron Parczyk; John Battle; Geoffrey Cavalier; Bailey Comer; Melissa Hatchett; Kacper Krok; Tyler Rasnake; Christopher Sayre; Matthew Sutton; Chuan Tang; Oliver White; Julian Wandzilak; Tomasz Wszolek; Michael Cunningham; Scott Schermmerhorn; Javan Reynolds; Brian Ishom	Architecture	The Green Oak Initiative	Theodore Shelton Jr	ORE Gold Award for Undergraduate Research in Art, Architecture and Design, and Performing Arts
Holly Harris	Architecture	Intergenerational Living	John McRae	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award

Jerry Sullivan; Kenna Cajka, Angela Claeys, Cayce Davis, Patrick Green, Jacob Heaton, Gina Raffanti, Hunter Todd, Eric Archer, Hunter Byrnes, Geneva Hill, Jared Wilkins	Architecture	Beardsley Community Farm Design-Build- Evaluate Project	Jennifer Akerman	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award
Sierra Jensen; David Berry	Architecture	LEAP Collaborative: A Demonstration of Sustainable Practices	William Martella	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award
William Dunn	Architecture	Cabinet of Curiosities	Brian Ambroziak	College of Architecture and Design Undergraduate Research and Creative Achievement Honor Award
Zachary Mulitauaopele; Sean Miller, Zane Espinosa	Architecture	Steelhead	Keith Kaseman	Bronze ORE Undergraduate Research Excellence Award in Art, Architecture and Design, and Performing Arts

College of Arts & Sciences

Student Name	Department	Project Title	Faculty Mentor	Award
Adam Laclair; Ian Francis	Mathematics	Group Defect and Commuting Squares	Remus Nicoara	Honorable Mention, Physical Sciences, College of Arts & Sciences
Alina Clay	College Scholars Honors	Gendered Patterns of Economic Marginalization and Women's Political Participation in Latin America	Jana Morgan	Honorable Mention, Social Sciences, College of Arts & Sciences
Amos Manneschmidt	Physics and Astronomy	Using SPLASH to Visualize Nucleosynthesis of Many Species in CHIMERA Simulation of Type IIA Supernovae Core Collapse	William Hix	First place, Physical Sciences, College of Arts & Sciences
Benjamin Adams	Earth/ Planetary Sciences	Impact of Temporal Variations of Hydrology on Groundwater Geochemistry	Terry Hazen	Honorable Mention, Physical Sciences, College of Arts & Sciences
Campbell Reynolds	Biochem/ Cellular/ Molecular Bio	Characterization of Chemotactic Receptor Tlp2 in Azospirillum brasilense	Gladys Alexandre	Honorable Mention, Cellular, Molecular, and Microbiology, College of Arts & Sciences

Chad Melton	Earth/ Planetary Sciences	Photometry of scattered disk objects in the outer Solar System	Joshua Emery	Honorable Mention, Physical Sciences, College of Arts & Sciences
Chloe Bliton	Psychology	Emotion Dysregulation, Gender, and Intimate Partner Violence Perpetration: An Exploratory Study	Gregory Stuart	Phi Kappa Phi Honor Society Best of Show Award; Silver ORE Undergraduate Research Excellence Award in Social Science, Social Work, Education, Communication, and Humanities; First place, Social Sciences, College of Arts & Sciences
Chloe Lovelace	Classics	Swallow Imagery in the Spring Fresco	Aleydis Van de Moortel	Bronze ORE Undergraduate Research Excellence Award in Social Science, Social Work, Education, Communication, and Humanities; First place, Humanities, College of Arts & Sciences

David Morse	College Scholars Honors	The Interaction of Cytotoxins and Intermetallic Nanoparticles With Lipid Membranes	Dibyendu Mukherjee	Phi Kappa Phi Honor Society Best of Show Award; Gold ORE Undergraduate Research Excellence Award in Natural Sciences; First Place, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Dhara Naik; Brooke Pearson	Geography	When Pigs Flu	Ronald Foresta	First place, Social Sciences, College of Arts & Sciences
Emma Pugmire	Classics	Lost in the Sands of Time: The Monumental Imperial Latin Inscription at 'Ayn Gharandal	Erin Darby	First place, Humanities, College of Arts & Sciences
Haylie Lam	Biology	Real-Time Biomonitoring of Cytotoxicity in 3D Autobioluminescent Human Tissue Culture Models	Steven Ripp	First Place, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Joshua O'Banion	Psychology	Motivation and Anxiety Levels	Debora Baldwin	Honorable Mention, Social Sciences, College of Arts & Sciences

Justin Dinsmore	Microbiology	Metabolite Usage in <i>Candida albicans</i> Mutant Strains	Todd Reynolds	First Place, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Kathleen Fitzgerald	Microbiology	Diversity and Distribution of Archaeal <i>amoA</i> Genes in Geochemically Distinct Marine Basins	Terry Hazen	Honorable Mention, Ecology and Evolutionary Biology, College of Arts & Sciences
Kathryn Mcbride	Microbiology	Assessing Ecological Impact of Clay Flocculation Techniques by Measuring Microbial Community Structure	Terry Hazen	Honorable Mention, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Kelly Arnholt	Biology	Toxicity Testing of Cellulose Nanocrystals using Bioluminescent Bioreporters	Steven Ripp	Honorable Mention, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Krishen Gosine	Biochem/ Cellular/ Molecular Bio	Genetic Investigation of Separase's Role in the Viability in <i>Caenorhabditis elegans</i>	Josh Bembenek	Honorable Mention, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Louis Varriano	Physics and Astronomy	Can mirror matter be detected on Earth?	Yuri Kamyshkov	First place, Physical Sciences, College of Arts & Sciences

Marian LaForest	Biochem/ Cellular/ Molecular Bio	Non-degradable securin in <i>Caenorhabditis elegans</i>	Josh Bembenek	Silver ORE Undergraduate Research Excellence Award in Natural Sciences; First Place, Cellular, Molecular, and Microbiology, College of Arts & Sciences
Matthew Cameron	Chemistry	Development and Implementation of Cycloolefinic CO ₂ Thin-Film Gas Separation Membranes	Brian Long	First place, Physical Sciences, College of Arts & Sciences
Peter Meidl	Ecology/ Evolutionary Biology	Do Unaccounted for Mutualist Interactions Explain Plant-Soil Linkages?	Jennifer Schweitzer	Honorable Mention, Ecology and Evolutionary Biology, College of Arts & Sciences
Robert Cremins	Religious Studies	The Threat of Gender Nonconformity to Christian Authorities in Antiquity	Christine Shepardson	Honorable Mention, Humanities, College of Arts & Sciences
Sarah Daws	Ecology/ Evolutionary Biology	Plasticity in a changing world: phenotypic variability in <i>Boechera stricta</i> across spatial and temporal gradients	Jennifer Schweitzer	Silver ORE Undergraduate Research Excellence Award in Natural Sciences; First Place, Ecology and Evolutionary Biology, College of Arts & Sciences

Taylor Thomas	Religious Studies	Asherah in Israelite Religion	Erin Darby	Honorable Mention, Humanities, College of Arts & Sciences
William Johnson	Ecology/ Evolutionary Biology	Foraging behavior of Carolina Chickadees (<i>Parus carolinensis</i>) and Tufted Titmice (<i>Parus bicolor</i>) in response to the body orientation of snake predator models	Todd Freeberg	First Place, Ecology and Evolutionary Biology, College of Arts & Sciences

School of Art, College of Arts & Sciences

Student Name	Department	Project Title	Faculty Mentor	Award
Alanna Wilkinson	Art	I Don't Want to Live Without You	Paul Harrill	Bronze ORE Undergraduate Research Excellence Award in Art, Architecture and Design, and Performing Arts
Brayan Zavala	Art	Latino Literacy: A Bilingual Communication Guide	Sarah Lowe	Gold ORE Undergraduate Research Excellence Award in Art, Architecture and Design, and Performing Arts

Elea Wright; Alexandra Raykowitz, Stephanie Bullock, Jennifer Krukowski	Art	The Decorative Duel	Carolyn Staples	School of Art Undergraduate Research and Creative Achievement Honor Award
Katie Counts	Art	A Quality of Life; Piper's Cannabis Story	Paul Harrill	Silver ORE Undergraduate Research Excellence Award in Art, Architecture and Design, and Performing Arts
Rebekah Bennett; Vincent Walker	Art	Art Movement	Sarah Lowe	School of Art Undergraduate Research and Creative Achievement Honor Award
Samuel Bendriem; Brayan Zavala	Art	AccentKnoxville- Promoting the International Cultures in Knoxville, TN.	Sarah Lowe	School of Art Undergraduate Research and Creative Achievement Honor Award

School of Music, College of Arts & Sciences

Student Name	Department	Title	Faculty Mentor	Award
Wesley Carroll, Piano	Music	<i>Scherzo No. 2, Opus 31 in Bb minor</i> by Frederic Chopin	Fay Adams	Phi Kappa Phi Honor Society Best of Show Award; First place, School of Music, College of Arts & Sciences
Sid Warren, Alto Saxophone	Music	<i>Sonata Opus 19, 3rd Movement</i> by Paul Creston	Allison Adams	Second place, School of Music, College of Arts & Sciences
Tyler Padgett, Baritone	Music	<i>Fear no more the heat o' the sun</i> by Gerald Finzi	Andrew Skoog	Third place, School of Music, College of Arts & Sciences

Haslam College of Business

Student Name	Department	Project Title	Faculty Mentor	Award
Amanda Prevost	Accounting	Please Mind the GAAP: Advanced Compliance with FRC Reporting Changes	Joseph Carcello	Honorable Mention, Haslam College of Business

Ashton Banta	Marketing/Supply Chain Mgt	Going Viral: A Look Into the Effectiveness of Viral Advertising	Debbie Mackey	Honorable Mention, Haslam College of Business
Charles Currey	Marketing/Supply Chain Mgt	Corporate Social Responsibility: What is it, and Why Does it Matter?	Diane Mollenkopf	Silver ORE Undergraduate Research Excellence Award in Business; Second place, Haslam College of Business
Georgia Ralston	Accounting	Troubled Asset Relief Program: Impact as seen in the Agricultural Sector	James Chyz	Gold ORE Undergraduate Research Excellence Award in Business; First place, Haslam College of Business
Jacob Clabo	Economics	Political Polarization	Benjamin Compton	Honorable Mention, Haslam College of Business
John Ridley	Business Analytics/Statistics	Finding Phelps	Kenneth Gilbert	Bronze ORE Undergraduate Research Excellence Award in Business; Third place, Haslam College of Business
Liza Reineri	Accounting	Stock Market Reaction to Environmental Events	Laura Cole	Honorable Mention, Haslam College of Business

Samuel Rule	Economics	Economic Impact of Mega-Sporting Events: Explaining population effects on host cities	James Holladay	Honorable Mention, Haslam College of Business
Sophie Henssler	Economics	A Hedonic Study on the cumulative impact of wind turbines on real estate prices	James Holladay	Honorable Mention, Haslam College of Business

College of Communication and Information

Student Name	Department	Project Title	Faculty Mentor	Award
Benjamin Murphy	Journalism/Electronic Media	The Merry Death Collector	Paul Harrill	First place, College of Communication and Information
Kristin Knight; Kevin Brown	Advertising/Public Relations	Recruiting Millennials: How UT Can Leverage Recruitment Efforts Among Out-of-State Students During a Period of Education Reform	Lisa Fall	Second place, College Communication and Information

College of Education, Health, and Human Sciences

Student Name	Department	Project Title	Faculty Mentor	Award
Cicily Hummer; Antonio Schefano	Kinesiology/Recreat/Sport St	Effects of altered surface inclinations on knee kinematics during drop landing	Songning Zhang	Silver ORE Undergraduate Research Excellence Award in Nursing, Health, and Human Sciences; First place, College of Education, Health and Human Science
Hayley Moran	Child and Family Studies	Parental Ethnotheories about Child Rearing among the Gamo People in Ethiopia	Hillary Fouts	Honorable Mention, College of Education, Health and Human Science
Maria Mejia	Nutrition	A study of infant feeding beliefs and behaviors among a sample of Southwestern Chinese mother-infant dyads	Katie Kavanagh	Second place, College of Education, Health and Human Science
Russell Fling	Microbiology	3,4,4' - Trichlorocarbanilide Exposure Induces Gut Microbial Dysbiosis in Weaned Rats	Jiangang Chen	Third place, College of Education, Health and Human Science

College of Engineering

Student Name	Department	Project Title	Faculty Mentor	Award
Ellen Moore; William Barbour, Jay McMillan	Biosystems Engr/Soil Science	Design of a Mobile Shade Structure for Organic Dairy Cattle	John Wilkerson	William Harris III Undergraduate Research Award
James Ghawaly	Nuclear Engineering	Development of a Radioisotope Identification Algorithm for Gamma Spectra with a Low Energy Signal-to-noise Ratio	Howard Hall	Honorable Mention, College of Engineering
John Reynolds	Computer Science	Forward Error Correction for Fast Streaming with Open-Source Components	James Plank	Honorable Mention, Cellular, Molecular, and Microbiology
Jordan Hicks	Civil and Environmental Engr	Timescale of Clay-Polymer Composite Response Using Expansion Index Test	Angel Palomino	Silver ORE Undergraduate Research Excellence Award in Engineering; Second place, College of Engineering

Logan Terheggen	Chemical Engineering	Charge Transport in Imidazole-based Deep Eutectic Mixtures	Joshua Sangoro	Bronze ORE Undergraduate Research Excellence Award in Engineering; Third place, College of Engineering
Marti Bell	Chemical and Biomolecular Engr	Autocatalytic Activation of the Hemagglutinin in Influenza	Eric Boder	Gold ORE Undergraduate Research Excellence Award in Engineering; First place, College of Engineering
Matt Loyd	Material Science/Engineering	Homogeneity and annealing study on CsSrBr ₃ :Eu scintillator	Mariya Zhuravleva	Honorable Mention, College of Engineering
Sara Parker; Jenny Patel	Mech/Aerospace/Biomed Engr	Elucidating Sex-Related Differences in Calcification of Rat Aortic Heart Valves	Zannatul Ferdous	Honorable Mention, College of Engineering
Shane Hagen	Civil Engineering	Quantifying Extracellular Enzyme Activity In Deep-Sea Sediment From the Mediterranean Sea Through The Use Of Fluorometric Assays	Terry Hazen	Honorable Mention, College of Engineering

William Hoskins	Material Science/Engineering	Effects of Heat Treatment, Chemical Composition, and Cladding on the High Temperature Hydrogen Attack Resistance of C-½ Mo Steels	Carl Lundin	Honorable Mention, College of Engineering
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College of Nursing

Student Name	Department	Project Title	Faculty Mentor	Award
Bethany Worsham	Nursing	An Evaluation of the Precious Prints Project: The Emotional Impact of Preparing a Keepsake on NICU, PICU, and ER Nurses	Reba Umberger	Third place, College of Nursing
Erin Conley	Nursing	Kinship and Disaster Resilience in Rural Appalachia	Moriah McArthur	Honorable Mention, College of Nursing
Jacqueline Bennett; Elizabeth Barr, Lauren Knight, Steven Ensminger	Nursing	Non-pharmacological Pain Management in Ophthalmologic Exams of the Neonate	Kathleen Thompson	Bronze ORE Undergraduate Research Excellence Award in Nursing, Health, and Human Sciences; Third place, College of Nursing
Kathleen Kerr; Therese Miller,	Nursing	Effects of Breastfeeding on Finnegan Scoring in	Ezra Holston	Second place, College of Nursing

Chandler Williams		the Neonatal Abstinence Syndrome Population		
Lauren Speck	Nursing	Parental HPV Vaccine Acceptability Factors in Southern Appalachia	Sadie Hutson	Honorable Mention, College of Nursing
Meredith Haynes	Nursing	Physical Health Experiences of a Male Caregiver of a significant other with Breast Cancer	Sadie Hutson	Gold ORE Undergraduate Research Excellence Award in Nursing, Health, and Human Sciences; First place, College of Nursing

College of Social Work

Student Name	Department	Project Title	Faculty Mentor	Award
Emily Hill	Social Work	The Effects of Poverty on Individuals with Co-occurring Mental Health and Substance Abuse Disorders	Matthew Moore	Third place, College of Social Work
Jordan Frye	Social Work	Impact of Community Reentry Services on Recidivism	Matthew Moore	Honorable Mention, College of Social work
Matthew Crescenzi	Social Work	Factors Associated with Successful Completion of a Comorbid Substance Abuse and Mental Health Intensive Outpatient Group	Matthew Moore	Second place, College of Social Work

Megan
O'Hare

Social Work

Healthy Eating Habits
and Access to
Nutritional Foods in
Low-Income Women

Matthew
Moore

Gold ORE
Undergraduate
Research Excellence
Award in Social
Science, Social Work,
Education,
Communication, and
Humanities; First place,
College of Social Work

Rachel
Brown

Social Work

Independent Senior
Adults' Ability to
Complete Instrumental
Activities of Daily Living

Matthew
Moore

Honorable Mention,
College of Social work