



List of Winners – by College and Department

In each category, posters/papers were grouped in categories for undergraduate, graduate (Masters), and graduate (PhD) and a winner was selected based on the highest average score. In categories with more than 10 entries, an additional winner was selected.

COLLEGE OF AGRICULTURE AND HUMAN ECOLOGY

School of Agriculture

Undergraduate

Primary author: Brianah Castleberry

Co-author: Erik Koehler,

Title: Ovipositional Preference of Silverleaf Whitefly on Benchmark Acylsugar Tomato Breeding Lines

Research Advisor: Brian Leckie

External Collaborator: Martha Mutschler, Cornell University

School of Human Ecology

Undergraduate (1st)

Primary author: Madison Todd

Title: Sibling Relationships When One Sibling has Autism

Research Advisor: Rufaro Chitiyo

Undergraduate (2nd)

Primary author: Soyoung Choi

Title: Association Between a Healthy and Balanced Nutritional Intake in Relation to Self-Care and Depression

Research Advisor: Samantha Hutson

Biology Department

Undergraduate

Primary author: Charleston McCormick

Title: Improved taxonomic identification techniques for cutaneous microbiota of salamanders

Research Advisor: John Gunderson

Graduate (PhD)

Primary author: Robert Brown

Co-authors: Spencer Womble, Shrijana Duwadi

Title: Nutrient Retention in a Reconnected Riparian Forested Wetland

Research Advisor: Justin Murdock

Non-student collaborators: Jordan Evans

Chemistry Department

Undergraduate (1st)

Primary author: Wesley Wearing

Co-author: Lillian Pipkin

Title: Spectroscopic Characterization of Phenothiazine Co-crystals

Research Advisor: O. Andrea Cojocaru

Graduate (Masters)

Primary author: Zachary Gulledge

Title: Cleavage of tert-Butoxycarbonyl (BOC) Groups from Indoles and Other Heterocycles Using an Addition-Elimination Strategy with 3-Methoxypropylamine

Research Advisor: Jesse Carrick

Graduate (Masters)

Primary author: Morgan Michael

Title: Spatial and temporal variation of uptake and retention rates of nitrogen and phosphorus in west Tennessee agricultural wetland

Research Advisor: Justin Murdock

Undergraduate (2nd)

Primary author: Julia Vesely

Title: Research and Development of High Protein Beer

Research Advisor: Andrew Callender

Earth Sciences

Undergraduate

Primary author: Allison Bohanon

Title: Rocking and Rolling Downhill: Boulder Distribution Patterns on a Martian Terraced Fan, Xanthe Terra

Research Advisor: Jeannette Wolak

English

Undergraduate

Primary author: Rebecca Franey

Title: Making the Way to Marriage: Language and Love in Shakespeare's Plays

Research Advisor: Kristen Deiter

Graduate (Masters)

Primary author: Lauren Morgan

Title: Richard III's Bestial Masculinity and the Rhetoric of Animality in Thomas More's History of Richard III and The True Tragedie of Richard the Third

Research Advisor: Kristen Deiter

Foreign Languages

Undergraduate

Primary author: Allison Adams

Title: The Effects of Soviet Occupation on East German Children's Literature

Research Advisor: Julia Gruber

History

Undergraduate

Primary author: Mikayla Wood

Title: Historical and Sociological Impacts of the Duck River on Maury County, Tennessee Communities

Research Advisor: Megan Atkinson

Mathematics

Undergraduate

Primary author: Brelyn Grant

Title: A Longitudinal Study of Critical Asset Failures: Statistical Models and Inference

Research Advisor: Motoya Machida

Physics

Undergraduate

Primary author: Darsh Dinger

Title: Development of a sCMOS Position-Sensitive UCN Detector

Research Advisor: Adam Holley

COLLEGE OF EDUCATION

Counseling and Psychology

Undergraduate

Primary author: Rachel Pearson

Title: Background Music and Reading Comprehension: Musical Training Predicts Reading Comprehension Scores

Research Advisor: Matthew Zagumny

Curriculum and Instruction

Undergraduate

Primary author: Payton Womack

Co-authors/Collaborators: Mohera Narimetla, Kellie Malone, Pedro Arce, Stephanie Jorgensen, Robby Sanders

Title: SMARTS - STEM, Multiculturalism, and the Arts: A framework for the integration of cultural inclusivity in educational outreach utilizing the Renaissance Foundry Model

Research Advisor: Andrea Arce-Trigatti

Graduate (PhD/EdS)

Primary author: Bobby Adams

Co-author/collaborator(s): Stephanie Jorgensen, Pedro Arce

Title: Chemical Engineering Laboratory Curriculum Redesign Through Application of an Inquiry-guided Laboratory Manual

Research Advisor: Andrea Arce-Trigatti

Exercise Science, Physical Education and Wellness

Undergraduate (TIE)

Primary author: Kelsey Sanders
Co-authors: Maddie Ramsaur, Challice Ledford

Title: Is there a relationship between BMI and grip strength?

Research Advisor: Michael Phillips

Undergraduate (Tie)

Primary author: Mary Walker
Co-author: Thomas Carver

Title: Is There a Relationship Between BMI and Blood Pressure

Research Advisor: Michael Phillips

COLLEGE OF ENGINEERING

Chemical Engineering

Undergraduate (TIE)

Primary author: Steven Lam

Title: Optimization of Mass Transport within Direct Formic Acid Fuel Cell Catalyst Layer via Pore Formers

Research Advisor: Cynthia Rice

Undergraduate (TIE)

Primary author: Nutchanok Keerakiatwong

Title: Structure and Dynamics of Human Beta Defensin Interacting with Bacterial Lipid Membranes

Research Advisor: Liqun Zhang

Graduate (Masters)

Primary author: Jackson Penfield

Title: Molecular dynamics simulation on human beta defensin type 3 binding with CXCR4 receptor

Research Advisor: Liqun Zhang

Graduate (PhD-1st)

Primary author: Sabrina Buer

Co-authors: Sunil Rawal

Title: Modeling a Photocatalytic Reactor: Water Contaminant Degradation, Energy Production, and the Radiation Field

Research Advisor: Pedro Arce

Graduate (PhD-2nd)

Primary author: Jonathan Garvin

Co-author/collaborator: Dennis Piercy, Stephanie Jorgensen

Title: Rheological and Turbidimetric Characterization of Early-phase Wound Gels

Research Advisor: Robby Sanders

Civil and Environmental Engineering

Undergraduate

Primary author: Maci Arms

Co-author: Kalei Hair

Title: Data Collection towards Understanding Stormwater Management and Flooding Issues in the Town of Gainesboro, Jackson County, TN

Research Advisor: Tania Datta

Graduate (PhD)

Primary author: Prince Turkson

External Collaborator: Elizabeth Boeglin

Title: Unsaturated soil model effects on the propagation of the saturated zone in levees during flooding

Research Advisor: Daniel VandenBerge

Computer Science

Undergraduate (1st)

Primary author: Melissa Grier

Co-author: Kristen Forte, Dylan Bush, Jarod Teague

Title: Caribbean Delphinidae Click Classifications

Research Advisor: William Eberle

Undergraduate (2nd)

Primary author: Austin Brown

Co-author: Kendall Land, Andy Brown,

Title: Detecting Illegitimate Use of Legitimate Credentials

Research Advisor: Maanak Gupta

Graduate (Masters)

Primary author: Debolina Halder Lina

Co-author: Dipayan Banik

Title: Lake Storage Observation by Citizen and Satellite

Research Advisor: Sheikh Ghafoor

Graduate (PhD)

Primary author: Ibrahim Yilmaz

Title: Use of Adversarial Machine Learning for Avoiding Occupancy Detection from Smart Meter

Research Advisor: Ambareen Siraj

Electrical and Computer Engineering

Undergraduate

Primary author: Eungkyun Kim

Title: Adaptive Step Size Incremental Conductance Based Maximum Power Point Tracking

Research Advisor: Indranil Bhattacharya

Graduate (Masters)

Primary author: Jacob Nelson

Co-author: Tolulope Odetola

Title: WORDA: A "6/3" Winograd Offline- Runtime Decomposition Algorithm for Faster Inference

Research Advisor: Syed Rafay Hasan

Graduate (PhD)

Primary author: Muhammad Bima

Title: Layered DD Coil: An Improved Coil Structure For Wireless Power Transfer

Research Advisor: Indranil Bhattacharya

Manufacturing and Engineering Technology

Undergraduate

Primary author: Soraya Olvera-Barrious

Co-author/Collaborator(s): Lizzy Zink, Billy Lian, Evan Kixmiller, Hunter Hinshaw, Terry Guo

Title: Additive Manufactured Dinosaur Skeleton Repair and Upgrade

Research Advisor: Ismail Fidan

Graduate (Masters)

Primary author: Hao Lu

Co-author/collaborator(s): ZhiCheng Zhang, Andy Pardue

Title: Mechanical Characterization of Low-Cost Metal Material Extrusion

Research Advisor: Ismail Fidan

Graduate (PhD)

Primary author: Ankit Gupta

Collaborator: Frank Alifui-Segbaya, Griffith University

Title: Development of methacrylate-based denture reinforced with short glass fibers using the fused filament fabrication process

Research Advisor: Ismail Fidan

Mechanical Engineering

Undergraduate

Primary author: Logan Unser

Title: Simulation and Optimization of Wind Turbine Geometries

Research Advisor: Ahmad Vasselbehagh

Graduate (Masters)

Primary author: Mohammad Alshaikh Ali

Co-author: Eric Nolan

Title: Electromechanical Impedance Based Structural Health Monitoring During a Dynamic Event

Research Advisor: Steven Anton

Graduate (PhD)

Primary author: Reza Nouri

Co-author/Collaborator: Cristina L. Archer, University of Delaware

Title: Wind farm yaw control: Why positive yaw angles can enhance the production, while negative angles lead to an overall loss of power?

Research Advisor: Ahmed Vasselbehagh

COLLEGE OF INTERDISCIPLINARY STUDIES

Environmental Studies

Undergraduate

Primary author: Rachel Baker

Co-author: Chioma Ekechi

Title: Determination of Microplastic Content in Western Tennessee Lakes

Research Advisor: Tammy Boles

Graduate (PhD)

Primary author: Chioma Onwuchekwa

Title: Evaluation of Microplastic Load in a Waste Water Treatment Plant

Research Advisor: Tammy Boles

WHITSON-HESTER SCHOOL OF NURSING

Undergraduate

Primary author: Jacqueline Flowers

Title: MesoAmerican Nephropathy: A Growing Problem in Central America

Research Advisor: Susan Piras

Graduate (D.N.P.)

Primary author: Kassie Barnes

Title: Implementation of an Adverse Childhood Experiences Questionnaire in the Pediatric Primary Care Setting

Research Advisor: Bedelia Russell