College of Agriculture and Human Ecology

Agriculture

Undergraduate

Title: Fighting for Survival: A Bee's Life
Primary author: Amber Dunnaway
Research Advisor: Bruce Greene

Human Ecology

Undergraduate

Title: Parents’ Perspectives of Nature or Nurture in their Children’s Development
Primary author: Caleb Mott
Research Advisor: Rufaro Chitiyo

College of Arts and Sciences

Biology

Undergraduate

Title: Testing Diel Fish Migrations Between Riffle-Pool Habitats
Primary author: Shannon Murphy
Co-authors: Codi Underwood and Juju Wellemeyer
Research Advisor: Joshuah Perkin

Graduate

Title: Effect of Lake Depth on Hypoxia in Agricultural Lakes
Primary author: Jason Payne
Research Advisor: Justin Murdock
External Collaborators: Amy Gebhard, William Curtis
Chemistry

Undergraduate – 2 way tie

Title: Preparation of Novel Hemi-1,2,4-Triazinyl-[2,2'-]bipyridines via the Negeishi Coupling and Telescoped Condensation Towards Chemoselective Minor Actinide Separations.

Primary author: Ryan Downs
Co-author: Kayla Dean
Research Advisor: Jesse Carrick
External Collaborators: Ai Lin Chin

Graduate

Title: Molecular mechanism of JNK attenuation by parkin

Primary author: Cameron Davis
Research Advisor: Xuanzhi Zhan

Counseling and Psychology

Undergraduate

Title: The Role of Academic Self-Efficacy in Student Success

Primary author: Christopher Brown
Co-authors: Alanea Graci and Jessica Kelley
Research Advisor: Matthew Zagumny

Earth Sciences

Undergraduate

Title: Bumped, Bruised and Broken: Mississippian Crinoids as Indicators of Paleoflow Conditions

Primary author: Czarinna Clay
Co-author: Kayla Hillis
Research Advisor: Jeannette Wolak
English - Paper Presentations

Undergraduate – 3 way tie

Title: Fulfilling Fate: Roman Mythological Allusions and Organic Unity in Romeo and Juliet
Primary author: Kelsey Taylor
Research Advisor: Kristen Deiter

Undergraduate

Title: "The Weaker Vessels": Gender Roles in Shakespeare's Romeo and Juliet
Primary author: Shannon Buford
Research Advisor: Kristen Deiter

Undergraduate

Title: Star-Crossed Oppression in a Patriarchal Society: Feminist Critique of Romeo and Juliet
Primary Author: Brittney Herman
Research Advisor: Kristen Deiter

Graduate – 2 way tie

Title: Curiosity and Fear as Elements of the Sublime in Poe and Hawthorne
Primary author: Brandi Kriebel
Research Advisor: Michael Burduck

Graduate

Title: Eliza's Rising Consciousness in Pygmalion
Primary author: Cody Matthews
Research Advisor: Paulina Bounds

History

Graduate

Title: Virtual Campus Historical Tour
Primary author: Kellie Price
Co-author: Chasely Goodman
Research Advisor: Allen Driggers
**Physics**

**Undergraduate**

**Title:** Optimizing the Timing Resolution for the NeXT Array  
**Primary author:** Aaron Engelhardt  
**Co-author:** Leonard Mostella  
**Research Advisor:** Mustafa Rajabali  
**External Collaborators:** Stephen Shadrick, Kyle Schmidt

**Sociology and Political Science**

**Undergraduate**

**Title:** Prescription Pain Reliever Misuse: An Explanatory Study of the Social Factors  
**Primary author:** Nathan Payne  
**Research Advisor:** Steven Seiler

**College of Business**

**Decision Sciences and Management**

**Undergraduate**

**Title:** Using Creative Inquiry to Answer Human Resource Questions  
**Primary author:** Laura Secord  
**Research Advisor:** Thomas Timmerman
College of Education

Art Craft and Design

Undergraduate

Title: Researching Environmental Wayfinding Design at Nashville International Airport  
Primary author: Amanda Kail  
Co-authors: Dustin Jackson, Kimberley McGrath, and Tori Vann  
Research Advisor: David Gallop

Counseling and Psychology

Graduate

Title: Effective Narrative Therapy Techniques with Latino College-Aged Clients  
Primary author: Leslie Bohn  
Co-author: Angelica Galvan  
Research Advisor: Tony Michael

College of Engineering

Chemical Engineering

Undergraduate  
Title: Thermal desalination for utilization of waste heat from nuclear power production  
Primary author: Robyn Varner  
Co-authors: Katlin Schubert and Hunter Himes  
Research Advisor: Laura Arias Chavez

Graduate  
Title: Role of Electrokinetics in the Cleaning-Efficiency of a Dialyzer: Toward an Artificial-Kidney  
Primary author: Nastasia Allred  
Research Advisor: Pedro Arce
Civil and Environmental Engineering

Undergraduate
Title: Short and Long-Term Chart Solutions for Design of Compacted Clay Slopes
Primary author: Clifton Tubb
Research Advisor: Daniel VandenBerge

Graduate
Title: Improving Accuracy of Annual Average Daily Traffic Estimates from Short-Period Traffic Counts
Primary author: Michelle Edwards
Research Advisor: Daniel Badoe

Computer Science

Undergraduate
Title: Little Suzie: Exploring Game Mechanics as a Narrative Device
Primary author: Cyril Focht
Research Advisor: David Brown

Graduate
Title: Machine Learning with Feature Selection for Continuous Authentication
Primary author: Jnana Deepika Bala
Research Advisor: Ambereen Siraj

Electrical and Computer Engineering

Graduate
Title: Short-term Voltage stability enhancement using MAS in distribution feeders with PV penetration
Primary author: Marco Gonzalez
Research Advisor: Satish Mahajan

Manufacturing and Engineering Technology

Undergraduate
Title: Reducing Post-Processing and Allowing Free Complexity in Metal Additive Manufacturing
Primary author: Zachary Carter
Co-authors: William House, Forrest Hale, and Grant Livingston
Research Advisor: Duckbong Kim
Mechanical Engineering

Undergraduate
Title: Modeling and Prototyping of Artificial Knee Joint for Embedded Piezoelectric Transducers
Primary author: Robert Ponder
Co-author: Mohsen Safaei
Research Advisor: Steven Anton
External Collaborators: R. Michael Meneghini

Graduate
Title: Force and center of pressure detection in instrumented knee implant
Primary author: Mohsen Safaei
Research Advisor: Steven Anton

College of Interdisciplinary Studies

Environmental Studies

Undergraduate – 2 way tie
Title: Wastewater sample analysis by LC-MS/MS for amphetamine-type stimulants and opioids
Primary author: Amy Loftis
Co-authors: Waverly Parker, Madison Fulmer, Madison Moffit, and Patrick Kane
Research Advisor: Tammy Boles

Undergraduate
Title: Community Outreach in the Form of Education in the Upper Cumberland
Primary author: Emily Warren
Co-authors: Brianna Banes, Tully Watson, James Scott, and Rachel Gambrell
Research Advisor: Tammy Boles

Interdisciplinary Studies (Global Village)

Undergraduate
Title: Importance of Religion and Politics among Southeastern College Students
Primary author: Chassidy Overstreet
Co-authors: Melissa Eager and Madison Davis
Research Advisor: Matthew Zagumny
Honors Program

Undergraduate

Title: Classroom Physiology: The Mechanics of Student Interaction in the Honors Classroom

Primary author: Allison Faust

Co-authors: Ben Swank and Jacob Kelley

Research Advisor: Laura Cruz