

# 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: Joshua Perkin

External Collaborators: Amy Gebhard, William Curtis

### **Graduate**

Title: Effect of Lake Depth on Hypoxia in Agricultural Lakes

Primary author: Jason Payne

Research Advisor: Justin Murdock

## **Chemistry**

### **Undergraduate – 2 way tie**

Title: Preparation of Novel Hemi-1,2,4-Triazinyl-[2,2']-bipyridines via the Negishi 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

### **Undergraduate**

Title: Synthesis of Pyruvaldehyde Thiosemicarbazone Ligands and Their NMR Spectrum Data

Primary author: Adam Koch

Co-author: Kelsey Richards

Research Advisor: Ed Lisic

### **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: 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

### **Undergraduate**

Title: "The Weaker Vessels": Gender Roles in Shakespeare's Romeo and Juliet

Primary author: Shannon Buford

Research Advisor: Kristen Deiter

### **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