College of Agriculture and Human Ecology

Agriculture
Undergraduate

Title: Exploring the Knowledge and Perceptions of Honey Bees within the Community

Primary author: Amber Dunnaway
Research Advisor: Dennis Duncan

Human Ecology
Undergraduate

Title: Hormones in Dairy and the Effect on Human Health

Primary author: Lina Hernandez
Research Advisor: Melinda Anderson

College of Arts and Sciences

Biology

Undergraduate

Title: Identifying patterns in the culturable skin microbiome of Appalachian salamanders

Primary author: Bailey Burns
Co-authors: John Griffith, Gabrielle Russell, Fantasia Erdman, and Megan Wharton
Research Advisor: Donald Walker
Collaborator: Aubree Hill

Graduate

Title: Computational Predictions of the Binding Sites of RAF Kinases with hRAS

Primary author: Shanrya Foster
Research Advisor: S.K. Ballal
Collaborator: Derek Cashman
Chemistry

Undergraduate

Title: Dehydrogenative Coupling of Functionalized Pyridines toward Complexants for Minor Actinide Separation

Primary author: Gabrielle Waters
Research Advisor: Jesse Carrick

Graduate

Title: Heavy Metal Remediation from Aqueous Solutions by New SIT Materials

Primary author: Emily Rush
Research Advisor: Ed Lisic

Earth Sciences

Undergraduate

Title: Grain-scale strain analysis of rock in middle Tennessee

Primary author: Kathleen Thompson
Co-author: Lori Nabors
Research Advisor: Michael Harrison

English (Papers)

Undergraduate

Title: Creation and Community in Hawthorne and Poe

Primary author: Shannon Buford
Research Advisor: Michael Burduck

Graduate

Title: Elements of the Gothic in David B.'s Epileptic

Primary author: Brandi Kriebel
Research Advisor: Anthony Baker

Mathematics

Undergraduate

Title: mu-rank of Noncommutative Quadratic Forms on Four Generators

Primary author: Jessica Prince
Research Advisor: Padmini Veerapen

Graduate

Title: Evaluating the Statistical Significance of Pedestrian Crossings on Superstreets using D-values instead of p-values

Primary author: Meghan Sigler
Research Advisor: David Smith
Physics

Undergraduate

Title: Development of New High Resolution Neutron Detector
Primary author: Leonard Mostella III
Research Advisor: Mustafa Rajabali

College of Business

Economics, Finance, and Marketing

Undergraduate

Title: The United States trade deficit with China - Solutions?
Primary author: Hannes Vhon
Research Advisor: Alma Hales
College of Education

Counseling and Psychology

**Undergraduate**

**Title:** The Importance of Cultural Values in the Stigmatization of Mental Illness  
**Primary author:** Chassidy Overstreet  
**Research Advisor:** Matthew Zagumny

**Graduate**

**Title:** First Experiences in Laos  
**Primary author:** Laslie Phongsap  
**Research Advisor:** Matthew Zagumny

Curriculum and Instruction

**Graduate**

**Title:** The Status of Tennessee Foster Parent Training and Support Including Fostering Children with Neonatal Abstinence Syndrome (NAS) and the Relationship of Foster Parents’ Perceived Abilities, Motivations, and Likelihood to Continue Fostering  
**Primary author:** Elizabeth Ramsey  
**Research Advisor:** Jane Baker

Exercise Science, Physical Education and Wellness

**Undergraduate**

**Title:** The Difference in Step Frequency in Shod vs. Unshod Running  
**Primary author:** Johnny Perkins  
**Co-author:** Brianna Peach  
**Research Advisor:** Michael Phillips
College of Engineering

Chemical Engineering

Undergraduate
Title: Use of excess energy from nuclear power generation for seawater desalination via forward osmosis
Primary author: Katlyn Schubert
Research Advisor: Laura Arias Chavez

Graduate
Title: Utilizing desalination brine for concentration of orange juice via forward osmosis
Primary author: Haley White
Co-authors: Leif Templeton and Shelby Jones
Research Advisor: Laura Arias Chavez

Civil and Environmental Engineering

Graduate
Title: Comparison of FEA and Analytical Methods for Determining Global Stability of a RAP Supported MSE Wall
Primary author: Emily Reed
Research Advisor: Daniel VanderBerge

Computer Science

Undergraduate
Title: Multi-Task Correlation-Based Feature Selection for Gene Expression Data
Primary author: Katherine Brown
Research Advisor: Doug Talbert

Graduate
Title: Safety Analysis for UAV Networks
Primary author: AHM Jakaria
Research Advisor: Mohammad Rahman

Electrical and Computer Engineering

Graduate
Title: ON SUBSYNCHRONOUS INDUCTION GENERATOR EFFECT MITIGATION IN A WIND ENERGY SYSTEM USING CURRENT SOURCE CONVERTER BASED STATCOM
Primary author: Eseme Sota
Research Advisor: Ghadir Radman

Graduate
Copper Substituted High Capacity and Stable P2 – Type Cathode Material Na0.7Ni0.3Mn0.59Co0.1Cu0.01O2 for Sodium Ion Battery Technology
Primary author: Bibek Tiwari
Research Advisor: Indranil Bhattacharya

There was a TIE in the graduate division.
Manufacturing and Engineering Technology

Undergraduate

Title: NASA Human Rover Exploration: An engineering design challenge changing the future
Primary author: Tyler Wilson
Co-authors: Macy Williams, Gordon VanHoy, Justin Finks, and Kyle Monnin
Research Advisor: Ahmed Elsawy

Mechanical Engineering

Undergraduate

Title: Parametric Testing of Surrogate Knee Replacement Bearings with Embedded Piezoelectric Transducers
Primary author: Zachariah Tiberi
Co-author: Justin Carlson
Research Advisor: Steven Anton

Graduate

Title: Thermal Management Using Diamond Nanofluid
Primary author: Farzin Mashali
Co-author: Gholamreza Mirchekari
Research Advisor: Ehsan Languri

Environmental Studies

Undergraduate

Title: Analysis of wastewater samples for attention deficit hyperactivity disorder (ADHD) medications by liquid chromatography-tandem mass spectrometry (LC-MS/MS)
Primary author: Waverly Parker
Research Advisor: Tammy Boles

Graduate

Title: Qualification and quantification of various opioids in urban wastewater treatment plant and river by utilization of Solid Phase Extraction (SPE) technique and LC-MS/MS
Primary author: Faranak Mahmoudi
Research Advisor: Tammy Boles

Interdisciplinary Studies

Undergraduate

Title: Stigma as a Barrier to Care in the HIV+ and Transgender Communities
Primary author: Bryson-Higgins Kelpe
Research Advisor: Ashley Allison
Nursing

Undergraduate

Title: An Interdisciplinary Case Study: Promoting Collaboration Between Undergraduate Nursing and Occupational Therapy Students

Primary author: Katie Howell

Co-authors: Peyton Curtis and Hailey Burke

Research Advisor: Susan Piras