24th Annual Exhibition of Undergraduate Research and Creative Achievement
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Letter</td>
<td>2</td>
</tr>
<tr>
<td>Judging Divisions</td>
<td>3</td>
</tr>
<tr>
<td>Division Representatives</td>
<td>4</td>
</tr>
<tr>
<td>2020 Schedule of Events</td>
<td>5</td>
</tr>
<tr>
<td>College of Architecture &amp; Design</td>
<td>6</td>
</tr>
<tr>
<td>College of Architecture &amp; Design, School of Design</td>
<td>6</td>
</tr>
<tr>
<td>College of Arts &amp; Sciences, Humanities</td>
<td>7</td>
</tr>
<tr>
<td>College of Arts &amp; Sciences, Natural Sciences</td>
<td>7</td>
</tr>
<tr>
<td>College of Arts &amp; Sciences, School of Music</td>
<td>10</td>
</tr>
<tr>
<td>College of Arts &amp; Sciences, Social Sciences</td>
<td>10</td>
</tr>
<tr>
<td>College of Communication &amp; Information</td>
<td>12</td>
</tr>
<tr>
<td>College of Education, Health &amp; Human Sciences</td>
<td>12</td>
</tr>
<tr>
<td>College of Nursing</td>
<td>12</td>
</tr>
<tr>
<td>College of Social Work</td>
<td>18</td>
</tr>
<tr>
<td>Haslam College of Business</td>
<td>19</td>
</tr>
<tr>
<td>Herbert College of Agriculture</td>
<td>20</td>
</tr>
<tr>
<td>Tickle College of Engineering</td>
<td>21</td>
</tr>
<tr>
<td>Community Partners</td>
<td>24</td>
</tr>
</tbody>
</table>
Welcome to the University of Tennessee’s 24th annual Exhibition of Undergraduate Research and Creative Achievement (EURēCA). This event honors original and creative works completed by undergraduate students as the highlight of Research Week events and celebrations. The Office of Undergraduate Research coordinates this unique competition to encourage, support, and reward undergraduate participation in the campus research enterprise. Participating in campus research empowers students to produce original work, develop faculty mentoring relationships, enhance their resumes, and become more competitive when applying to graduate school. EURēCA continues to expand its opportunities to participate. This year’s event will be held in a virtual format due to the COVID-19 pandemic. Over 400 students will present their research using the Zoom platform. We are proud of our students’ resilience during this time as they adjust to new, virtual formats. The diverse array of exhibits and performances highlights a broad range of endeavors and approaches, including both individual and collaborative efforts, as well as research produced both within and outside the classroom. Student research posters can be viewed in our online symposium at symposium.foragerone.com.

Awards are provided by colleges for college and divisional awards. The Office of Undergraduate Research recognizes student achievement across the colleges. This event would not be possible without the hard work of many individuals. We send a big thank you to our division representatives in organizing the participants from their areas and to our judges for all of their hard work in selecting this year’s winners.

We would especially like to thank each of you for taking the time to visit the event, engage with the students, and support the excellent undergraduate research and creative activity at the University of Tennessee, Knoxville. If you would like to become more involved in undergraduate research, I encourage you to take advantage of our enhanced institutional membership of the Council on Undergraduate Research as well as contact our office for information on how to get started.

Sincerely,

Marisa Moazen, Ph.D.
Assistant Vice Chancellor for Research Engagement and Director, Office of Undergraduate Research
EURēCA

Exhibition of Undergraduate Research & Creative Achievement

This year, we are experiencing a format change due to the global COVID-19 pandemic. However, we are excited to be able to continue with EURēCA in a virtual format. More than 400 undergraduate students from the University of Tennessee will present their research and creative activity at EURēCA 2020 VR. This format will allow students to present their research to judges via Zoom meetings as well as showcase their research poster online at symposium.foragerone.com. This research covers many different disciplines, from music to mechanical engineering to stock market studies, and are categorized into the following judging divisions:

- College of Architecture and Design
- College of Architecture and Design, School of Design
- College of Arts and Sciences, Humanities
- College of Arts and Sciences, Natural Sciences
- College of Arts and Sciences, Social Sciences
- College of Arts and Sciences, School of Music
- College of Communication and Information
- College of Education, Health, and Human Sciences
  - College of Nursing
  - College of Social Work
- Haslam College of Business
- Herbert College of Agriculture
- Tickle College of Engineering
Exhibition of Undergraduate Research and Creative Achievement

2020 Division Representatives

Larry McKay  
College of Arts & Sciences

Kristina McCue  
College of Arts & Sciences, Honors English 298

Hollie Raynor  
College of Education, Health, and Human Sciences

Tyler Wall  
College of Arts & Sciences, Social Sciences

Koichi Yamamoto  
College of Arts & Sciences, School of Art

Kevin Kit  
Tickle College of Engineering

Jeremiah Johnson  
College of Arts & Sciences, Natural Sciences

T.K. Davis  
College of Architecture & Design

Brent Lamons  
Herbert College of Agriculture

Elias Fernandez  
College of Arts & Sciences, Natural Sciences

Cary Staples  
College of Architecture & Design, School of Design

Kathleen Thompson  
College of Nursing

Stefanie Ohnesorg  
College of Arts & Sciences, Humanities

Suzie Allard  
College of Communication and Information

Bill Nugent  
College of Social Work

Thank you to all of our division representatives who put in countless hours to make this event a success!

Office of Undergraduate Research

Marisa Moazen  
Assistant Vice Chancellor for Research Engagement and Director, Office of Undergraduate Research

Emily Mitchell  
Program Coordinator

Susan Troop  
Program Coordinator

Julianna Tullos  
Administrative Assistant

Andrew Ten-Eyk  
Graduate Teaching Assistant
Exhibition of Undergraduate Research and Creative Achievement 2020 VR

Schedule of Events

<table>
<thead>
<tr>
<th>Monday, April 13</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4:45 p.m. – 5:00 p.m.</td>
<td>EURēCA Kickoff via Zoom</td>
</tr>
<tr>
<td>5:00 p.m. – 8:00 p.m.</td>
<td>Exhibition opens for all Colleges via Zoom Meetings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Friday, April 19</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 p.m.</td>
<td>EURēCA Awards Ceremony via Zoom</td>
</tr>
</tbody>
</table>

We invite you to view the research posters from this year’s event at Symposium.foragerone.com
The College of Architecture & Design

#2 Chloe Dyer
Major: Architecture
Faculty Mentor: Ambroziak, Brian Michael
Project Title: La Luna _ The Marbled Rose

#3 Jenna Ely
Major: Architecture
Faculty Mentor: Ambroziak, Brian Michael
Project Title: The Duel

#4 Emma Hines
Major: Architecture
Faculty Mentor: Ambroziak, Brian Michael
Project Title: Proliferated Remedy

#5 Alice Irizarry, Elizabeth Ford, Emily Lavoll
Major: Architecture
Faculty Mentor: Ambroziak, A Katherine Bambrick
Project Title: Designing for Intentional Communal Residence in Rural Haiti

#6 Joanna Martin, Grace Shoffner, Annabel Greenberg
Major: Architecture
Faculty Mentor: Ambroziak, A Katherine Bambrick
Project Title: BEACON Eco-Village

#7 Greta Mehlberg
Major: Architecture
Faculty Mentor: Davis, Marleen Kay
Project Title: Tombras Building Wall Section Research

#9 Zachary Orig
Major: Architecture
Faculty Mentor: Kalas, Gregor A
Project Title: Mapping Food and Infrastructure in Early Medieval Rome: A Critical Analysis of the Fourth Century Forum Boarium

#10 Delaney Powell
Major: Architecture
Faculty Mentor: Ambroziak, Brian Michael
Project Title: The Vesicle City: A Prognosis of the Urbanized Infection

#11 Alexandra Rees
Major: Architecture
Faculty Mentor: Akerman, Jennifer Alford
Project Title: Airspace: Infrastructure of the Unseen

#12 Brendan Wallace
Major: Architecture
Faculty Mentor: Ambroziak, Brian Michael
Project Title: Velocity of Grief

#13 Jonathan Winfiele
Major: Architecture
Faculty Mentor: Akerman, Jennifer Alford
Project Title: Architecture’s Narratives

#14 Olivia McWright, Brooke Clime, Brianna Patterson
Major: Interior Architecture
Faculty Mentor: Ambroziak, A Katherine Bambrick
Project Title: Haitian Eco-Village

#15 Geghie Davis
Major: Graphic Design
Faculty Mentor: Cote, Christopher Bryce
Project Title: Sipsy

#17 John Sanders
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Metamorphosis: A Butterfly Garden Experience

#19 Madeline Walker
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Borderland Butterfly Garden

#20 Joshua Maine
Major: College Scholars Program
Faculty Mentor: Staples, Cary
Project Title: Data Visualization and Wayfinding Signage

#22 Chasity Anderson
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Butterfly Garden: Nostalgic Wonderland

#24 Geghie Davis
Major: Graphic Design/Illustration
Faculty Mentor: Cote, Christopher Bryce
Project Title: Sipsy

#25 Katherine Davis
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Butterfly Garden Community Based Project

#29 Sarah Goldstein
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Butterfly Garden Flags

#30 Sierra Jones
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: South Knoxville Butterfly Garden Signage System

#31 Justin Lenton
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Human Connections through Borderland Tees Garden

The College of Architecture & Design, School of Design

#15 Geghie Davis, Cole Field, Henry Burgin, Marieli Valencia
Major: Graphic Design
Faculty Mentor: Lowe, Sarah
Project Title: Tinnitus Animated Video Project for UTK Audiology & Speech Pathology

#16 Michelle Brown
Major: Graphic Design
Faculty Mentor: Staples, Cary
Project Title: Tarot Garden: Exploring plant nativity through cards
#32 Braxton Palmer  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Bringing the Game to the Garden: How Augmented Reality can bring a community together.

#33 Braxton Palmer, Taylor Bogle, John Sanders  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Teaching Language through Game Design

#34 Jared Robson  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Borderlands Garden

#35 Zoe Sharp  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Butterfly Garden Entrance

#37 Christina SokTaylor Bogle, Peter Kramar, Jonathan Woods  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** The Social Butterfly Project

#38 Travis Wealand  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Borderland Butterfly Garden and Creative Land Recycling

#39 Jared Robson  
**Major:** Graphic Design  
**Faculty Mentor:** Staples, Cary  
**Project Title:** Making a Pizza

---

The College of Arts & Sciences, Humanities

#40 Alisa Lim  
**Major:** Linguistics  
**Faculty Mentor:** Grieser, Jessica Ann  
**Project Title:** Universality of Road Signs

#41 Hannah Nelson  
**Major:** Linguistics  
**Faculty Mentor:** Gallmeier, Maria B  
**Project Title:** Trends in Pejoration of Female-Related Terms of Abuse in English

#42 Carl Weinstein  
**Major:** Interdisciplinary Programs  
**Faculty Mentor:** Darby, Erin Danielle  
**Project Title:** מַנ as a Contaminant in Joshua 6 and 7: Is Achan “Sinner Zero?”

#44 Audrey Jean Culpepper  
**Major:** Russian  
**Faculty Mentor:** Blackwell, Stephen H  
**Project Title:** Accessing the Third Translation: Nabokov’s Zashchita Luzhina and Nabokov’s The Defense

---

The College of Arts & Sciences, Natural Sciences

#51 Justin Kemp, James Simmons  
**Major:** Biological Sciences  
**Faculty Mentor:** Labrador-San Jose, Mariano  
**Project Title:** Insulators Interact with Early DNA Damage Response Components to Aid Chromosomal Stability

#52 Ashtyn Hill  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** McCord, Rachel Patton  
**Project Title:** Ionizing Radiation Effects on CTCF and Cohesin Recruitment to Sites of DNA Damage

#53 Peyton Hickman  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** McKee, Bruce D  
**Project Title:** Investigating the regulation and function of 6-methyl adenine in the Drosophila genome: genetic analysis of the Drosophila homologs of DAMT1/METTL4 and NMAD1/ALKBH4.

#54 Brandon Lu  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Roberts, Daniel M  
**Project Title:** Calmodulin Like 38 is the hypoxia specific functional homolog of Regulator of gene silencing Calmodulin.

#56 Jacob Wood, Cory Anderson  
**Major:** Biological Sciences  
**Faculty Mentor:** Park, Jae H  
**Project Title:** Analysis of Unknown Circadian Rhythm Mutations in Drosophila Melanogaster
#57 Levi Gifford  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Burch-Smith, Tessa Maureen  
**Project Title:** Chloroplast-to-Nucleus Retrograde Signaling Altering Plasmodesmata Structure and Function

#58 Ronnie Tran  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Shpak, Elena D  
**Project Title:** The Role of Plant Hormone Auxin in Leaf Elongation

#59 William Bowman  
**Major:** Biological Sciences  
**Faculty Mentor:** Roberts, Daniel M  
**Project Title:** The calcium sensor protein Calmodulin Like 38 is degraded via autophagy during flooding

#60 Rachael Deboe  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Shpak, Elena  
**Project Title:** EPFL Genes and their Role in Flower Development in Arabidopsis thaliana

#61 Hayden Roberts  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Das, Maitreyi Emmanuel  
**Project Title:** Role of Pak1 Kinase in Cytokinesis

#62 Creighton Kellum  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Alexandre, Gladys  
**Project Title:** 19F-NMR as a Tool for Identifying Potential Inhibitors of the Antibiotic-Resistant Enzyme, R67 Dihydrofolate Reductase.

#63 Madison Ricketts, Julianne Om  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Lamichhane, Rajan  
**Project Title:** Single-Molecule Studies on DNA Bending by Transcription Factor Protein Sox2

#64 Kaylie Richard  
**Major:** Chemical Engineering  
**Faculty Mentor:** Johnson, Jeremiah Gene  
**Project Title:** Purification of the Receptor Region of an Outer Membrane Protein from Campylobacter jejuni

#65 Natalie Hamel  
**Major:** Biological Sciences  
**Faculty Mentor:** Jain, Nitin  
**Project Title:** Investigating the Basis of Thermostability in Cytochrome P450 Enzymes

#66 Shinduri Vijayakumar  
**Major:** Chemical Engineering  
**Faculty Mentor:** Bruce, Barry  
**Project Title:** Encapsulation and Stabilization of Photosystem I into Aqueous Mesoporous Microspheres

#67 Dinesh Velu  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Bailey, Constance  
**Project Title:** Enhancing Polyketide Synthase Pathways through Cofactor Modifications

#68 Katarina Micin  
**Major:** Biochem/Cellular/Molecular Bio  
**Faculty Mentor:** Bruce, Barry D  
**Project Title:** Optimizing Cryopreservation Methodology for Diverse Cyanobacteria

#69 Ethan Long  
**Major:** Aerospace Engineering  
**Faculty Mentor:** Coder, James George  
**Project Title:** Experiential Learning for Engineering Students through Educational Outreach and Leadership

#70 Hunter Presley  
**Major:** Physics  
**Faculty Mentor:** Fomin, Nadia  
**Project Title:** Survey of Vibrations in a Magnetic Spectrometer

#71 Tanner Mengel, Benjamin Smith  
**Major:** Physics  
**Faculty Mentor:** Nattrass, Christine Elizabeth  
**Project Title:** Transverse energy from heavy ion collisions

#72 Adam Bryant  
**Major:** Physics  
**Faculty Mentor:** Lavrentovich, Maxim  
**Project Title:** Survival Probabilities on Branching Tissues

#73 Kenley Prescher  
**Major:** Geology  
**Faculty Mentor:** Dygert, Nick  
**Project Title:** Europium partition coefficient between pyroxenes and melt

#74 Maggie Hinkston  
**Major:** Microbiology  
**Faculty Mentor:** Su, Chunlei  
**Project Title:** Reproducibility of Witherite Biomorphs

#75 Christian Calleja  
**Major:** Microbiology  
**Faculty Mentor:** Kah, Linda C  
**Project Title:** Molecular Identification of Toxoplasma gondii in an Outbreak of Toxoplasmosis in Zoo Kangaroos

#76 Rhea Hester  
**Major:** Biological Sciences  
**Faculty Mentor:** Horn, Sally P  
**Project Title:** Fungal Spores in the Sediments of Laguna Zoncho

#77 Joshua Miller  
**Major:** Mathematics  
**Faculty Mentor:** Ganusov, Vitaly  
**Project Title:** Mathematical Modeling of Viral Spread in N. Benthamiana Plants

#78 Patricia Burtt  
**Major:** Geology and Environmental Stdy  
**Faculty Mentor:** Szynkiewicz, Anna  
**Project Title:** Microbial activity in acidic hydrothermal sediments - Looking for Evidence of Life on Mars

#79 Thomas Hyde  
**Major:** Microbiology  
**Faculty Mentor:** Lebeis, Sarah  
**Project Title:** Plant-associated bacteria interact differently on diverse media sources
#80 Cameron Fang  
Major: Environmental & Soil Sciences  
Faculty Mentor: Steen, Andrew  
Project Title: Analysis of Positive Selection on Extracellular Enzymes

#81 Andrea Ramirez  
Major: Microbiology  
Faculty Mentor: Sparer, Timothy E  
Project Title: Human Cytomegalovirus UL146/vCXCL1’s act as virulence factors, enhancing spread and viral burden in a mouse model

#82 Bruce Boles  
Major: Environmental Engineering  
Faculty Mentor: Mikucki, Jill  
Project Title: Genome Sequence of an Antarctic Microbe Constructed Using a Rapid, Portable Sequencer and a Hybrid Assembly

#83 Minh Tram Nguyen  
Major: Microbiology  
Faculty Mentor: Zinser, Erik Ross  
Project Title: Prochlorococcus Interaction with Competing Rhodospirillaceae spp. and Alteromonas macleodii in co-cultured

#84 Ramsey Regen  
Major: Microbiology  
Faculty Mentor: Mikucki, Jill  
Project Title: Stress-Driven Microbial Survival: Salt, Drugs, and Heavy Metals at the Bottom of the World

#85 Jared Clance  
Major: Biological Sciences  
Faculty Mentor: Zinser, Erik Ross  
Project Title: Nitrogen Limitation Affects Community Dynamics of Synechococcus and Alteromonas Symbionts

#86 Sophie Stanley  
Major: Geography  
Faculty Mentor: Horn, Sally P  
Project Title: Getting a Glimpse Into the Past with Soil Charcoal Samples

#87 Kali Flynn Burke  
Major: Plant Sciences  
Faculty Mentor: Horn, Sally P  
Project Title: Pine Species in the SE USA during the Late Glacial Period versus the Holocene: Evidence from Pollen Grains

#88 Jordan Reed  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Schweitzer, Jennifer  
Project Title: Fire May Reduce Rates of Herbivory and Increase Plant Performance

#89 Anna LaFollette, Jared Chance  
Major: Geography  
Faculty Mentor: Horn, Sally P  
Project Title: How Sample Pretreatments Affect Stable Isotope Values in Lake Sediments

#90 Jackson Turner  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Kivlin, Stephanie  
Project Title: Insect herbivore community diversity differs among wildflower species and changes over time

#91 Anna Kaz  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Giam, Xingli  
Project Title: Within-reach temperature heterogeneity is limited in a southern Appalachian stream network: implications for climate change refugia and reach-scale temperature mapping

#92 Eric Smith  
Major: Environmental/Soil Sciences  
Faculty Mentor: Szynkiewicz, Anna  
Project Title: Assessing Environmental Processes Contributing to Sulfate Formation on Mars Using Antarctic Analogs

#94 Bryce Wade  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Fitzpatrick, Benjamin M  
Project Title: Predicting Southern Zigzag Salamander (Plethodon Ventralis) Occupancy in a Fragmented Landscape

#95 Peibo Li, Katie Sipes  
Major: Biology  
Faculty Mentor: Lloyd, Karen  
Project Title: DNA Extraction and Elemental Analysis of Svalbard Permafrost Active Layer

#96 Andrew Lonergan  
Major: Geology and Environmental Stdy  
Faculty Mentor: Steen, Andrew  
Project Title: Analyzing Extracellular Enzyme Activity across Hot Springs in Panama

#97 Alexandra Scearce  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Schilling, Edward  
Project Title: Potential for DNA Barcoding to Enhance Conservation Efforts of Tennessee Flora

#98 Jordan Reed  
Major: Ecology/Evolutionary Biology  
Faculty Mentor: Schilling, Edward  
Project Title: Potential for DNA Barcoding to Enhance Conservation Efforts of Tennessee Flora

#100 Jordan Romero, Jake Alexander  
Major: Geology and Environmental Stdy  
Faculty Mentor: Kah, Linda C  
Project Title: Interpreting variation in weathering color in Archaean carbonate rocks using petrography, cathodoluminescence, and geochemistry: An integrated approach

#101 David Skinner  
Major: Biochem/Cellular/Molecular Bio  
Faculty Mentor: Krishnan, Keerthi  
Project Title: Touch perception in an adult female mouse model for Rett Syndrome

#102 Mahircan Yagan, Hannah Lee, Josephine Waller, Daniel Kim  
Major: Biochem/Cellular/Molecular Bio  
Faculty Mentor: Krishnan, Keerthi  
Project Title: Investigation of cortical perineuronal net expression in rat dams
#103 Brett Emery, Matthew Everett, Bailey Bohannon, Sarah-Anne Bowyer  
Major: Neuroscience  
Faculty Mentor: Krishnan, Keerthi  
Project Title: Investigating the cortical expression of perineuronal nets in male mouse model of CDKL5 disorder in hemisphere and sub region specific manner

#104 Morgan Lane  
Major: Neuroscience  
Faculty Mentor: Allen, Ben  
Project Title: Influence of Red and Blue Wavelengths on the Pupil Light Reflex

#105 Sydnie Toler, Derek Wenger, Elijah Henley  
Major: Neuroscience  
Faculty Mentor: Allen, Ben  
Project Title: A Neuroimaging Meta-Analysis of the Autonomic Brain

#106 Corinne Maldonado, Meagan Smith  
Major: Psychology  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Exploring Developmental Changes in Functional Connectivity Associated With Cognitive Flexibility

#107 Matthew Jenkins, Sydney Wyatt  
Major: Neuroscience  
Faculty Mentor: Cooper, Matthew A  
Project Title: Understanding the Role of Perineuronal Nets Experience-Dependent Neural Plasticity

#108 Thomas Clarity, Roland Rodriguez, Matthew Jenkins  
Major: Neuroscience  
Faculty Mentor: Cooper, Matthew A  
Project Title: Minocycline reduces acute social defeat-induced neuroinflammation and neurodegeneration in the hamster vmPFC

#109 Neha Sagarad  
Major: Neuroscience  
Faculty Mentor: Cooper, Matthew A  
Project Title: Investigating Cellular Mechanisms of Coping Responses and Dominance Status

#112 Carinne Cheney  
Major: Microbiology  
Faculty Mentor: Schulz, Kalynn Marie  
Project Title: The Role of Estrogen on Perineuronal Nets in the Prefrontal Cortex

#113 Gulsah Onar  
Major: Psychology  
Faculty Mentor: Schulz, Kalynn Marie  
Project Title: Examining the Impact of Gonadal Steroid Hormones on Perineuronal Net Development in the Medial Amygdala

#114 Elise Campbell  
Major: Music, Stringed Instruments  
Faculty Mentor: Baldwin, Wesley  
Project Title: Red Rocks Music Festival: Winter Chamber Institute

#115 Caleb Cannon  
Major: Music Education  
Faculty Mentor: McConville, Brendan Paul  
Project Title: The Summoning (An original work for four bass trombones)

#116 Summer Shore, Rachel Hickman  
Major: Biochem/Cellular/Molecular Bio  
Faculty Mentor: Macfie, Jenny  
Project Title: Preterm Birth Among Opioid-Using Women and High-Risk Controls: The Potential Moderating Role of Borderline Features

#117 Maya Bian  
Major: College Scholars Program  
Faculty Mentor: Shefner, Jon D  
Project Title: The Commodification of Care: A Case Study in a Private Long-Term Care Facility in Northeastern China

#118 Vincent Jodoin  
Major: Mathematics  
Faculty Mentor: Lenhart, Suzanne M  
Project Title: Modeling the Effect of Social Networks on the Spread of Opioid Use

#119 Courtney Wombles  
Major: College Scholars Program  
Faculty Mentor: Lyons, Beauvais  
Project Title: Medical Illustrations as a Tool for Increasing Health Literacy

#120 Adriana Ford  
Major: Geography  
Faculty Mentor: Li, Yingkui  
Project Title: Forestry and Ecological Applications Using Terrestrial LiDAR

#121 Morgan Steckler  
Major: Geography  
Faculty Mentor: Horn, Sally P  
Project Title: Stable Carbon and Nitrogen Isotope Ratios in the Sediments of Laguna Arancibia, Costa Rica

#122 Wesleigh Wright  
Major: Geography  
Faculty Mentor: Horn, Sally P  
Project Title: Point-counts of Microscopic Charcoal in Lake Sediments from Belize and Costa Rica: Comparisons with other Charcoal Proxies of Past Fire
#127 Lauren Adams  
Major: Modern Foreign Lang/Liter  
Faculty Mentor: Issa, Bernard Ibrahim  
Project Title: Working memory and study abroad: a study of memory and language gains

#129 Anna Franklin  
Major: Communication Studies  
Faculty Mentor: Kerr, Matthew Timothy  
Project Title: Studying Levels and Perceptions of Severe Weather Preparedness in University of Tennessee-Knoxville Students

#130 Shannon Perrone  
Major: Spanish  
Faculty Mentor: Parker, Lisa Ybonne Figueroa  
Project Title: On the Outside Looking In: How our Immigrant and Differently Abled Communities Face the Trials and Tribulations of American Society

#131 Klara Houck, Kyle Neubert, Hannah Grigorian  
Major: Biochemistry  
Faculty Mentor: Stuart, Gregory Lyal  
Project Title: The Relationship Between Adverse Childhood Experiences and Risky Sexual Behavior Among College Students

#132 Brooke Frohlich  
Major: Psychology  
Faculty Mentor: Larsen, Jeff T  
Project Title: Sulk 'Til You Hulk: An Examination of the Effects of Angry Facial Expression Poses On Emotional Experience

#133 Cody Levi, Katherine Peterson  
Major: Neuroscience  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Tracking Flanker Task Dynamics: Evidence for Continuous Attentional Selectivity

#134 Ashley Miller, Hollis Ratliff  
Major: Psychology  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Neural Dynamics of Dimensional Label Learning Predicts Dimensional Attention

#135 Megan Montana, Rebecca Herrarte  
Major: Psychology  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Probing the Effects of Response Type in a Visual Working Memory Task

#136 Kyle Neubert, Hannah Grigorian, Klara Houck  
Major: Psychology  
Faculty Mentor: Stuart, Gregory Lyal  
Project Title: The Relationship Between Adverse Childhood Experiences and Risky Sexual Behavior Among College Students

#137 Austin Shell, Hannah Hunter  
Major: Neuroscience  
Faculty Mentor: Allen, Kristy Elizabeth  
Project Title: Clinical vs. subclinical anxiety levels in adults: Are there meaningful differences?

#138 Timothy Smith  
Major: Psychology  
Faculty Mentor: Larsen, Jeff T  
Project Title: Sulk 'Til You Hulk: An Examination of the Effects of Angry Facial Expression Poses On Emotional Experience

#139 Christian Staton, Timothy Smith, Nicholas Coles  
Major: Psychology  
Faculty Mentor: Larsen, Jeff T  
Project Title: Credit where credit is due? An examination of the reliability of crediting behavior in science.

#140 Kellie Veltri, Jasdeep Bath  
Major: Psychology  
Faculty Mentor: Hay, Jessica Sari  
Project Title: Do Toddlers Learn Words from Other Toddlers?

#141 Emily Alfaras, Jessica Brock, Kodie Palmer, Phoeve Clardy, Taylor Murmann, Alexa Nouvel, Erin Crittenden, Jackson Ratliff, Darren Garcia  
Major: Psychology  
Faculty Mentor: Gordon, Kristina Coop  
Project Title: Nonverbal synchrony and commitment in romantic dyads

#142 Sydney Brawner  
Major: Neuroscience  
Faculty Mentor: Allen, Ben  
Project Title: Effects of varying light intensity on absolute constriction amplitude

#143 Jessica Brock, Raley Smith, James Dance  
Major: Neuroscience  
Faculty Mentor: Reynolds, Greg  
Project Title: Initial Learning Conditions Affect Other-Species Face Processing in Infancy

#144 Anastasia Fancher, Alexis Mcraw  
Major: Interdisciplinary Programs  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Using a Memory Game to Enhance Frontal Activation In 3.5-Year-Olds During and Executive Function Task

#145 Savannah Ledbetter  
Major: Neuroscience  
Faculty Mentor: Buss, Aaron Thomas  
Project Title: Using a Memory Game to Enhance Frontal Activation In 3.5-Year-Olds During and Executive Function Task

#146 Neeley Hodge  
Major: Pre-Professional Programs  
Faculty Mentor: Sinnreich, Helene  
Project Title: Genocidal interruptions of reproduction: Forced Abortions and Forced Impregnation during two genocides

#147 Kayde Stroud  
Major: Psychology  
Faculty Mentor: Sinnreich, Helene  
Project Title: A comparison of the Vilna Ghetto hospital and the Syrian underground hospital during war time conditions through a public health lens

#148 Alexander Tripp  
Major: Political Science  
Faculty Mentor: Morgan, Jana  
Project Title: No Strings Attached? FDI, Ideology, and Levels of Democracy in Latin America
#152 Sarah Troyer, Jandi Palmer  
Major: College Scholars Program  
Faculty Mentor: Kovac, Jeffrey D  
Project Title: An International Inquiry into the Field of Forensic Science Abroad

#154 Symantha Gregorash  
Major: Religious Studies  
Faculty Mentor: Darby, Erin Danielle  
Project Title: Examining Impacts of Cultural Competency Curriculum Among Study Abroad Students

#155 Kerri Adkins  
Major: Communication Studies  
Faculty Mentor: Miller, Laura Elizabeth  
Project Title: The way siblings communicate about a parent’s cancer

#156 Max Ray Davenport  
Major: Communication Studies  
Faculty Mentor: Crowley, Jenny Linnea  
Project Title: Hurt Will Follow: Young-Adult Children’s Communicative and Behavioral Responses to Hurtful Messages From Parents.

#157 Amber Gentry, Jared Smith, Bradi Baker, Jacob Beard, Anna Darty, Danielle Lee, Olivia Riffe  
Major: Animal Science  
Faculty Mentor: Bettaieb, Ahmed  
Project Title: Novel Insights into the Role of Soluble Epoxide Hydrolase in Adipogenesis

#158 Jared Smith, Amber Gentry, Anna Darty, Olivia Riffe, Jacob Beard, Bradi Baker, Danielle Lee  
Major: Biochem/Cellular/Molecular Bio  
Faculty Mentor: Bettaieb, Ahmed  
Project Title: Genetic Ablation and Pharmacological Inhibition of Soluble Epoxide Hydrolase in the β-Cells Enhance Glucose-Stimulated Insulin Secretion

#159 Caroline Begley, Tanner Kilpatrick  
Major: Child and Family Studies  
Faculty Mentor: Johnson, Elizabeth Inez  
Project Title: Household Member Arrest and Adolescent Hopelessness: The Mediating Role of Future Expectations

#160 Ashlyn Anderson  
Major: Nutrition  
Faculty Mentor: Barroso, Cristina  
Project Title: Suggested and Practiced Interventions Addressing College Student Food Insecurity across the Socioecological Model: A Literature Review

#161 Margaret Pepper  
Major: College Scholars Program  
Faculty Mentor: Ehrlich, Samantha  
Project Title: Too Busy To Exercise: Examining Pregnant Women’s Exercise Preferences

#162 Rachel Clifft  
Major: Recreation /Sport Management  
Faculty Mentor: Scott, Jason Lovejoy  
Project Title: Volunteerism and its Effect on Emotional Well-Being in College Students

#163 Brooks Leftwich, Gregory Croisdale, Khoa Dang  
Major: Mechanical Engineering  
Faculty Mentor: Boyd, Karen  
Project Title: Montgomery 1960: Using Technology to Teach Empathy and Perspective Taking

#164 Symantha Gregorash  
Major: Religious Studies  
Faculty Mentor: Darby, Erin Danielle  
Project Title: Examining Impacts of Cultural Competency Curriculum Among Study Abroad Students

#165 Kayla Layton, Lucia Reyes  
Major: Psychology  
Faculty Mentor: Jaekel, Julia  
Project Title: 165. Caregivers’ depression risk and NAS infants’ abilities to use self-regulation to recover from negative arousal

#166 Ashlyn Hodges  
Major: College Scholars Program  
Faculty Mentor: Ehrlich, Samantha Frances  
Project Title: Validation of the Fitbit Charge 3 in Women with Gestational Diabetes Mellitus: Preparing for a Behavioral Physical Activity Intervention

#167 Brooks Leftwich, Gregory Croisdale, Khoa Dang  
Major: Mechanical Engineering  
Faculty Mentor: Boyd, Karen  
Project Title: Montgomery 1960: Using Technology to Teach Empathy and Perspective Taking

#168 Madeline Kinsella  
Major: Nursing  
Faculty Mentor: Hebert, Susan Lynn  
Project Title: Improving Emergency Room Length of Stay through Transportation

#169 Grace Terhune  
Major: Nursing  
Faculty Mentor: Hebert, Susan Lynn  
Project Title: Free Events Flyer as an Intervention for Social Isolation

#170 Maggie Tracey, Makenna Black, Nicole Archuletta  
Major: Nursing  
Faculty Mentor: Kiernan, Jason Micheal  
Project Title: The Effect of First Aid Lessons on 3rd and 4th Grade Students

#171 Anna Stoddard  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Evaluating Wound Care Knowledge in Underserved Populations in Knoxville
<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Major</th>
<th>Faculty Mentor</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>#172</td>
<td>Abigail Winterstein</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Physicians’ and Nurses’ Perceptions of Family Initiated Rapid Response Systems in Pediatric Medicine</td>
</tr>
<tr>
<td>#173</td>
<td>Chloe Allen</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Health risks related to electronic nicotine device use in college students</td>
</tr>
<tr>
<td>#174</td>
<td>Delaney Allison</td>
<td>Nursing</td>
<td>Mixon, Melanie C</td>
<td>Effects of Appearance and Dress on a Hospitalized Child’s Participation</td>
</tr>
<tr>
<td>#175</td>
<td>Lindsay Apedaile</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Implementation of Girls on the Run</td>
</tr>
<tr>
<td>#176</td>
<td>Karoline Barnett</td>
<td>Nursing</td>
<td>Lakin, Brooke Nicole</td>
<td>Virtual Reality Effects on Adolescents with Cerebral Palsy</td>
</tr>
<tr>
<td>#177</td>
<td>Thomas Barringer, Morgan Murray, London Hendon, Maria Glower</td>
<td>Nursing</td>
<td>Koszalinski, Rebecca Susan</td>
<td>Implementation of Girls on the Run</td>
</tr>
<tr>
<td>#178</td>
<td>Angelica Ian Bautista, Chevela Lightfoot, Megan Hoffman</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>The Effects of Meditation on Burnout Rates Among Hospital Nurses</td>
</tr>
<tr>
<td>#179</td>
<td>Lauren Bradley, Sydney Smith, Katherine Proctor, Taylor Sieverson</td>
<td>Nursing</td>
<td>Tourville, Jennifer Gale</td>
<td>Kangaroo Care’s Effects on Breastfeeding</td>
</tr>
<tr>
<td>#180</td>
<td>Samantha Callari, Whitney Leon, Taylor Anderton</td>
<td>Nursing</td>
<td>Bailey, Carrie</td>
<td>Hospital Nurse Burnout and the Effects of Mindfulness-Based Practice</td>
</tr>
<tr>
<td>#181</td>
<td>Emily Carlton, Jessica Rack, Kailyn Phann, Lauren Warwick</td>
<td>Nursing</td>
<td>McLennon, Susan Margaret</td>
<td>Water Birth and Neonatal Infection Incidence</td>
</tr>
<tr>
<td>#182</td>
<td>Bailee Cavin</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Hand-washing; Your Protection Against Infection</td>
</tr>
<tr>
<td>#183</td>
<td>Madeline Chelko, Shelby Lawless</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Childhood Obesity: A Shared Decision Making Tool</td>
</tr>
<tr>
<td>#184</td>
<td>Christopher Clark</td>
<td>Nursing</td>
<td>Sagherian, Knar</td>
<td>Non-pharmacological Nursing Interventions for Better Outcomes in Infants with Neonatal Abstinence Syndrome</td>
</tr>
<tr>
<td>#185</td>
<td>Paige Clark</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Effect of Aromatherapy in Reducing Chemotherapy Induced Nausea and Vomiting (CINV) in Pediatric Patients</td>
</tr>
<tr>
<td>#186</td>
<td>Courtney Cremerius</td>
<td>Nursing</td>
<td>Beebe, Lora L Humphrey</td>
<td>Effects of Exercise and Physical Activity on Postpartum Depression</td>
</tr>
<tr>
<td>#187</td>
<td>Micheletta Crump</td>
<td>Nursing</td>
<td>Thompson, Kathleen</td>
<td>Implementing Fire Safety to Decrease Fire-Related Injuries in Children</td>
</tr>
<tr>
<td>#188</td>
<td>Katherine Cunningham</td>
<td>Nursing</td>
<td>Miller, Lynne Hill</td>
<td>The Effect of Partner Teaching on Utilization of The Precious Prints Project</td>
</tr>
<tr>
<td>#189</td>
<td>Olivia Decuir, Bridget Barrett, Taylor Coleman, Mackenzie Owens</td>
<td>Nursing</td>
<td>Abdoli, Samereh</td>
<td>The Effect of Audio Therapy on Anxiety in Preoperative Pediatric Patients</td>
</tr>
<tr>
<td>#190</td>
<td>Katherine DePillo</td>
<td>Nursing</td>
<td>Brown, Kimberly McCaskill</td>
<td>The Effects of Hand Hygiene in the Adult Staff at SHADES of Development</td>
</tr>
<tr>
<td>#191</td>
<td>Kaila Dilling, Kristine Tuttle, Vivian Smit, Claudia Dobronski</td>
<td>Nursing</td>
<td>Bailey, Carrie</td>
<td>Effects of Animal-Assisted Therapy on Distress</td>
</tr>
<tr>
<td>#192</td>
<td>Olivia Dominick</td>
<td>Nursing</td>
<td>Griffith, Gail Ann</td>
<td>Improving Physical Activity in Women’s Transitional Housing</td>
</tr>
</tbody>
</table>
#193  Andie Dorris  
Major: Nursing  
Faculty Mentor: Morgan, Erin  
Project Title: Teaching Proper Handwashing Technique for 4- and 5-Year Old Children

#194  Jordan Douglas  
Major: Nursing  
Faculty Mentor: Morgan, Erin  
Project Title: Educating Parents of Two to Three Year Olds on How to Communicate with Teachers Regarding Children

#195  Jessica Eakes, Isabella Yardley, Jennifer Gotschall, Jeffrey Cole  
Major: Nursing  
Faculty Mentor: Sagherian, Knar  
Project Title: Decreasing Delirium in Intensive Care Unit Patients through the Implementation of ABCDE(F) Bundles

#196  Michael Earhart  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Exploring Prescription Stimulant Use Among Nursing Students on a Large Southeastern Campus

#197  Ashley Ervin  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Improving Hand Hygiene in Elementary Students

#198  Lexie Ferguson  
Major: Nursing  
Faculty Mentor: Bishop, Edelyn Yvette  
Project Title: Ketamine Clinics and Policy Implementation

#199  Peyton Fleming, Mikayla Murphy, Emily Nelmark, Taylor Turner  
Major: Nursing  
Faculty Mentor: Koszalinski, Rebecca Susan  
Project Title: Complementary and Alternative Medicine for Chronic Pain Management

#200  Izabella Garcia, Anna Harwood, Cierra Widener, Emily Pooler  
Major: Nursing  
Faculty Mentor: Sagherian, Knar  
Project Title: The Relationship Between Music Therapy and Agitation Levels Among Alzheimer’s Disease Patients

#201  Kayla Gentry  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Nutritional Snack Choices in Toddlers

#202  Elizabeth Gibbs  
Major: Nursing  
Faculty Mentor: Hurt, Maria  
Project Title: Oral Hygiene Education for Families of the Knoxville Dream Center Food Trucks

#203  Emily Glenn  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: The Effects of Advertisements on Reducing Food Insecurity in the Working-Uninsured Population

#204  Morgan Graham  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Effect of Provider Training on HPV Vaccination Rates in Rural East Tennessee

#205  William Hanson, Kristiana, Cozort, Gemma Pierce, Charly Medley  
Major: Nursing  
Faculty Mentor: Kiernan, Jason Micheal  
Project Title: The Effects of Animal-Assisted Therapy on the Mental Status of Pediatric Inpatients: A Literature Review

#206  Stephanie Harwell  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: The Effectiveness of Basic First Aid Education for Elementary Aged Students

#207  Carson Haymon, Savanna Atkinson, Peyton Smith, Dayton Wagner  
Major: Nursing  
Faculty Mentor: Tourville, Jennifer Gale  
Project Title: Effects of Corporal Punishment on Behavior in Pre-school and Elementary Age Children

#208  Michael Henry, Collin Ashmore, Charles Williams, Brad Yowell  
Major: Nursing  
Faculty Mentor: Sagherian, Knar  
Project Title: Nurse Staffing and Patient Falls in Inpatient Hospital Units: A Review of Literature

#209  Kayla Hindle  
Major: Nursing  
Faculty Mentor: Anderson, Joel Gwyn  
Project Title: Attitudes and beliefs of nursing students towards patients with eating disorders before and after participating in a psychiatric mental health nursing course

#210  Elizabeth Hodges, Timothy Metcalf, Lillian Hopson, Tierney Sink  
Major: Nursing  
Faculty Mentor: Sagherian, Knar  
Project Title: Impact of Turning Frequency on Pressure Ulcer Prevention in Hospitalized Adults

#211  Olivia Hoyt, Katharine Bossong, Madison Bixler, Melissa Haskins  
Major: Nursing  
Faculty Mentor: Beebe, Lora L Humphrey  
Project Title: Effect of Yoga as an Adjunct Therapy for Depressive Disorders

#212  Eva Huff  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Evaluating Nurses’ Opinion of Doula Contribution to the Labor and Delivery Team
<table>
<thead>
<tr>
<th>#213</th>
<th>Breana Hunt, Piper Carveth, Amanda Cummings, Amanda Ellis</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Bailey, Carrie</td>
<td>Project Title: Effect of Multimodal Sensory Stimulation on Enhanced Recovery for Hospitalized Patients with Brain Injury</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#214</th>
<th>Sarah Ingell</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Effects of Maternal Self-Efficacy on Neonatal Intensive Care Unit Visitation Rates</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#215</th>
<th>Brian Jones, Sydney Mourgues, Keegan Walker, Emily Gaines</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Kiernan, Jason Micheal</td>
<td>Project Title: The Effects of Art Therapy on Anxiety and Quality of Life in Cancer Patients</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#216</th>
<th>Meredith Kaufman, Connor Archer, Abby Strakhov</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Bailey, Carrie</td>
<td>Project Title: Social support and low birth weight among at risk mothers.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#217</th>
<th>Racheal Kirk</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Decreasing Stress Among Shades of Development Staff to Minimize Turn Over and Improve Care</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#218</th>
<th>Jessica Laird</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Physical Activity and Perceptions of Disease and Disability Prevention in Older Adults</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#219</th>
<th>Kelsie Lamb</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Effects of a Nutrition Program on School Aged Girls</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#220</th>
<th>Taylor Lay</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: The Effects of HPV Vaccine on Cervical Cancer in Females Between the Ages of Nine to 35</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#221</th>
<th>Ariana Lee</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: School Asthma Needs: Comparison of Supplemental Sources and Ambassador Visits</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#222</th>
<th>Sandy Lee, Ainsley Ellington, Aryana Yavari</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: McLennon, Susan Margaret</td>
<td>Project Title: Does the Teach-Back Method Reduce Hospital Readmission Rates for Patients with Heart Failure?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#223</th>
<th>Ariel Lowe</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Bishop, Edelyn Yvette</td>
<td>Project Title: Health Literacy: The Impact of Health and Safety Education on Assisted Living Residents</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#224</th>
<th>Alyssa Madden</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Preschool Hand Hygiene</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#225</th>
<th>Samantha Marlow, Payton Lanier, Sarah Moses, Abigail Williams</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Koszalinski, Rebecca Susan</td>
<td>Project Title: Probable Outcomes of Caregiver Strain in Children diagnosed with ADHD: A Literature Review</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#226</th>
<th>Bailey Martin, Abigail Jaggers, Walaa Bahour, Anna Weeks, Erin Donlon</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Beebe, Lora L Humphrey</td>
<td>Project Title: The Role of Exercise in Improving Symptoms of PTSD in Veterans</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#227</th>
<th>Hannah Mathis, Allyson Haupt</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Griffith, Gail Ann</td>
<td>Project Title: Influenza Prevention Seminar</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#228</th>
<th>Skyler Mease, Addison White, Katherine Turner, Anna Mechley</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Tourville, Jennifer Gale</td>
<td>Project Title: Effect of physical activity on gestational diabetes mellitus in pregnant women</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#229</th>
<th>Kayla Miller</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Evaluating the Nurse’s Perception of the Precious Prints Project® as a Support Mechanism to Facilitate the Grieving Process of Nurses Experiencing the Death of Neonatal and Pediatric Patients</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#230</th>
<th>Faith Mysliwiec</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Probability of Reiki Therapy on Chronic Pain</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#231</th>
<th>Abigail Naifeh, Alexa Rebmann, Kelly Sasseen, Ansley Johnson</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: McLennon, Susan Margaret</td>
<td>Project Title: The Effectiveness of Reiki Therapy on Chronic Pain</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#232</th>
<th>Stephen Nowell</th>
<th>Major: Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Mentor: Thompson, Kathleen</td>
<td>Project Title: Effects of Social Media Use and Multi-use on Sleep Quality in Undergraduate Nursing Students at a Southeastern University</td>
<td></td>
</tr>
</tbody>
</table>
#233 Paige Osterfeld, Dylan Skiscim, Christopher Moriconi, Camryn Ford  
Major: Nursing  
Faculty Mentor: McLennon, Susan Margaret  
Project Title: The effect of cognitive behavioral therapy on improving disease management in young women with typical and atypical anorexia nervosa

#234 Emily Patton  
Major: Nursing  
Faculty Mentor: Meloy, Vikki  
Project Title: Interactive Healthy Lifestyle Classes and their Effect on Low Income Children Living in a Homeless Shelter

#235 Magen Payne, Leah Sell-Goodhand, Nicole Lytle, Curyona Best  
Major: Nursing  
Faculty Mentor: McLennon, Susan Margaret  
Project Title: Meditation and its Impact on Managing Chronic Pain: A Review of Literature

#236 Ashley Riedy, Gabriela Black, Cassidy Schaad, Meredith Burgin  
Major: Nursing  
Faculty Mentor: Beebe, Lora L Humphrey  
Project Title: MDMA: an option for treatment-resistant PTSD symptoms

#237 Joseph Robertson  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: The Effectiveness of Inhaled Isopropyl Alcohol as a Treatment to Control Post-Operative Nausea and Vomiting

#238 Kelsey Roth, Mikenna Orzech, Blake Smith  
Major: Nursing  
Faculty Mentor: Lakin, Brooke Nicole  
Project Title: Combating Social Isolation in Low-Income Geriatric Populations

#239 Savanna Scarbrough, Abigail Jaggers, Camryn Morales, Charlotte Wade  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Using Smartphone Applications to Improve Medication Adherence in Adults with Type I Diabetes

#240 Taylor Shott, Nicholas Osteen, Lainee Anderson, Caroline Billions, Lindsey Moore  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Effectiveness of Newsletters on Communication

#241 Emily Slater, Delaney Leduc, Abigail Olson, Katie Andrzejewski  
Major: Nursing  
Faculty Mentor: Koszalinski, Rebecca Susan  
Project Title: The Effects of Medical Recycling Programs in United States Public Hospitals

#242 Abbey Smithers, Emilee Burton, Helen Conley, Cassidy Darnell  
Major: Nursing  
Faculty Mentor: Kiernan, Jason Micheal  
Project Title: Comparison of Preoperative Stress in Children 16 and Under with Parental Presence Versus Parental Absence at Anesthesia Induction Site

#243 Ali Sullivan  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Adolescent Depression Rate Compared Between Those with a Grandparent with Dementia and the General Public

#244 Catherine Swords  
Major: Nursing  
Faculty Mentor: Taylor, Sheila Lynn  
Project Title: Handwashing Education and Effects in Children

#245 Zarina Tan  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Reducing Lost Sheep Ministry's Waste By 50%

#246 Alexandria Tasket  
Major: Nursing  
Faculty Mentor: Tourville, Jennifer Gale  
Project Title: The Effects of Cuddling and Music Therapy on Symptoms of Neonatal Abstinence Syndrome

#247 Gabrielle Thress  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Impact of Education on Health Care Providers’ Knowledge and Attitude Towards Prenatal Probiotics

#248 Vanessa Trefethen, Rebecca Gunter, Devin Wilmarth, Moriah Sims  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: The Effects of Aromatherapy on Sleep Quality in Cancer Patients Undergoing Chemotherapy

#249 Helen Whitaker, Yonna Worley  
Major: Nursing  
Faculty Mentor: Elliott, Lizanne Munson  
Project Title: Education on Mental Illness in Underserved Communities

#250 Shelby Wilson, Claire Moniz  
Major: Nursing  
Faculty Mentor: Elliott, Lizanne Munson  
Project Title: Initiation of a Referral System for CHANT

#251 Emily Wise  
Major: Nursing  
Faculty Mentor: Thompson, Kathleen  
Project Title: Assessing the Impact of Guided Imagery and Meditation on Stress Levels of Those Diagnosed with Dementia
<table>
<thead>
<tr>
<th>#252 Margaret Zerfoss, Ashley Mcmeen, Emily Boone, Maeve Mulligan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Thompson, Kathleen</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Same day ambulation and deep vein thrombosis in postoperative orthopedic patients.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#253 Xiao Mie Zhu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Bishop, Edelyn Yvette</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Effect of Guided Imagery in Reducing Blood Pressure in Aging Adults with Chronic Hypertension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#254 Riley Barrentine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Thomasson Jr, Frank</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Therapeutic Journaling: Effects on the Mental and Emotional State of a Child Who Has Been Exposed to Parental Incarceration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#255 Erin Britton</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Helton, Sally M</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Importance of Education on the Topic of Sexual Assault</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#256 Kelly Carney</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Taylor, Sheila Lynn</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Preventing Hypertension and Cardiovascular Diseases in African American Youth in East Knoxville, TN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#257 Chelsea Chapman, Morgan Phillips, Emily Nicholson</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Burns, Libby</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Increasing Reading Comprehension in the At-Risk Youth Population through the Big Brothers Big Sisters of East Tennessee Mentorship Program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#258 Amber Cook</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Helton, Sally M</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Early Recognition of Child Abuse and Mental Health Changes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#259 Kieraney Coston</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Swift, Shelia Henson</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Promotion of Effective Hand Hygiene Practices in School-Aged Children</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#260 Katelyn Dalton, Kelsey Fields, Lilian Jackson, melissa Briant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Koszalinski, Rebecca Susan</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Factors Influencing Compliance Rates of Colorectal Cancer Screening Tests</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#261 Ally Deason</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Bullard, Tammy Borden</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Effects of Implementation of Emotional Regulation Education in School-Aged Children</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#262 Brianna Desjardins, Rachel Lamphere, Meghan Wolfanger, Kaitlyn Mckinney</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Abdoli, Samereh</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Effect of scrub Removal on Illness Prevalence in Pediatric Nurses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#263 Elizabeth Durfee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Harper, Amanda Blayne</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Increasing Awareness of The Dream Connection Using Social Media and Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#264 Hannah Emery, Delaney Bayer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Spurgeon, Marcia McAllister</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Effects of Physical Activity in Decreasing Hyperactivity in Middle School Children</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#265 Kerri Gentry, Kristen Herold, Marissa Sliva, Erin Gilbert</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Abdoli, Samereh</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Blue Light Blocking Glasses and Increased Ability to Fall Asleep in Adults with Insomnia.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#266 Colby Gladson</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Elliott, Lizanne Munson</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Diabetic Condensed Action Plan (DCAP)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#267 Emily Harston</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Myers, Carole R</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Effects of Educating People Who are Experiencing Homelessness in the Knoxville Area about Diabetes and Asthma</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#268 Kennedie Kirkham, Lindsay Apedails</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Kojima, Freddie Naoto</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Effect of Central Line Maintenance Bundles on Central line-Associate Bloodstream Infections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#269 Kimberly Knorr, Zaria Hall, Logan Krussow, Elise Kendrick</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> McLennon, Susan Margaret</td>
</tr>
<tr>
<td><strong>Project Title:</strong> The Effect of Central Line Maintenance Bundles on Central line-Associate Bloodstream Infections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#270 Caroline Lukens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Taylor, Sheila Lynn</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Thrive Lonsdale Nutrition Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#271 Courtney McCarty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Kojima, Freddie Naoto</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Health Care for the Homeless</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#272 Mallory McNeal, Hannah Ratterman, Kayla Hindle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Nursing</td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Mixer, Sandy</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Substance Abuse Education in the Homeless Population</td>
</tr>
</tbody>
</table>
#273 Madelyn Meitin, Megan Brinkley, Gracie Clayton, Jessica Owen
**Major:** Nursing
**Faculty Mentor:** Kojima, Freddie Naoto
**Project Title:** The Relationship of Race and Ethnicity on the Prevalence of Complication During Pregnancy

#274 Garland Montgomery
**Major:** Nursing
**Faculty Mentor:** Mixon, Melanie C
**Project Title:** Effects of Education on Child Eating Habits in Low Socioeconomic Families

#275 Abigail Moore
**Major:** Nursing
**Faculty Mentor:** Hurt, Maria
**Project Title:** English and Spanish-Speaking Adults of Knoxville Food Deserts Utilizing Fresh Produce

#276 Madison Newberry, Katelyn Swaim, Leigh Mann
**Major:** Nursing
**Faculty Mentor:** Tourville, Jennifer Gale
**Project Title:** Providing Wound Care Education and Supplies at a Syringe Exchange Program

#277 Catherine Nicholson, Madison Miller
**Major:** Nursing
**Faculty Mentor:** Brown, Mary Lynn
**Project Title:** Examining the Effects of a Hand Washing Education Program on Students’ Ability to Comprehend the Importance of Hand Washing and Their Ability to Wash Their Hands in Accordance with CDC Guidelines

#278 Kylee Norris
**Major:** Nursing
**Faculty Mentor:** Burns, Libby
**Project Title:** Improving Moods of Adults with Alzheimer’s Disease with In-Person Exercise Routine

#279 Courtney Osborne
**Major:** Nursing
**Faculty Mentor:** Mixon, Melanie C
**Project Title:** Does Interactive Play Benefit Hospitalized Children?

#280 Laura Phelps
**Major:** Nursing
**Faculty Mentor:** Miller, Lynne Hill
**Project Title:** Effects of Corporate Intervention on Precious Prints Project

#281 Theone Rizane, Jessica Nguyen
**Major:** Nursing
**Faculty Mentor:** Spurgeon, Marcia McAllister
**Project Title:** Nutrition Education in High-Risk School Age Children

#282 Olivia Rolick, Juliet Lavie
**Major:** Nursing
**Faculty Mentor:** Bullard, Tammy Borden
**Project Title:** The Effects of Learning Basic Swim Techniques on the Amount of Fear Felt by Participants in Emerald Youth Swim Program

#283 Margaret Showalter, Annelise Carroll
**Major:** Nursing
**Faculty Mentor:** Lakin, Brooke Nicole
**Project Title:** Utilizing 5S Lean Technique to Reimagine Organization at Hope Resource Center

#284 Jamie Smith
**Major:** Nursing
**Faculty Mentor:** Kojima, Freddie Naoto
**Project Title:** KARM Guests and Cardiac Related Chest Pain

#285 Samantha Smith, Natalie Nelson, Jude Campbell
**Major:** Nursing
**Faculty Mentor:** Rhoten, Travis Dwayne
**Project Title:** Effects of Interactive Companion Pets on Those with Alzheimer’s Dementia

#286 Allison Taylor
**Major:** Nursing
**Faculty Mentor:** Adams, Cindi
**Project Title:** The Effects of Non-nutritive Sucking

#287 Kimberlyn Thomson
**Major:** Nursing
**Faculty Mentor:** Hurt, Maria
**Project Title:** Provider Perceptions of a Homeless Veteran’s Barriers to Health Care

#288 Lauren Trent
**Major:** Nursing
**Faculty Mentor:** Spurgeon, Marcia McAllister
**Project Title:** Hand Washing in Children to Decrease Infection

#289 Mallory Wylie
**Major:** Nursing
**Faculty Mentor:** Bullard, Tammy Borden
**Project Title:** The Effects of Yoga Techniques on the Attention of Children

#290 Karolynn Beasley
**Major:** Social Work
**Faculty Mentor:** Nugent, Bill
**Project Title:** A Study on the TN Together Act: Is it helping our levels of NAS?

#291 Lauren King, Betelham Berhe, Brittany Cleland, Bernadeta Joksait, Ellei Burmeister
**Major:** Psychology
**Faculty Mentor:** Roberson, Patricia
**Project Title:** An Analysis of Family Dynamics in relation to Breast Cancer Patient Outcomes in Rural Appalachia

#292 Karolynn Beasley
**Major:** Social Work
**Faculty Mentor:** Nugent, Bill
**Project Title:** Applying for Health Insurance and Insurance Assistance

#293 Bailey Cochran
**Major:** Social Work
**Faculty Mentor:** Nugent, Bill
**Project Title:** Ready, Set, Action as an Effective Intervention

---

**The College of Social Work**

#296 Allison Taylor
**Major:** Nursing
**Faculty Mentor:** Adams, Cindi
**Project Title:** The Effects of Non-nutritive Sucking
The Haslam College of Business

#302 Racquel Gomez
Major: Accounting
Faculty Mentor: Luna, Leann
Project Title: The Sharing Effect: The Impact of the Sharing Economy on Consumers/Producers/Policymakers

#303 Katherine Brown
Major: Anthropology
Faculty Mentor: Malone, Katy
Project Title: Marketing the McClung: Being an intern in the PR and Marketing Department of the McClung Museum

#304 Rachel Davis
Major: Business Analytics
Faculty Mentor: Cole, Laura Seery
Project Title: Data Breaches and Their Effect on Shareholder Return

#305 Tanner Beasley
Major: Business Analytics
Faculty Mentor: Ballings, Michel
Project Title: Setting Prices Using Deep Reinforcement Learning

#306 Sabrina Churchley
Major: Business Analytics
Faculty Mentor: Bichescu, Bogdan Cristian
Project Title: Traveling Patients: Determinants of Patient Travel for Healthcare Services.

#307 Brenna Logan
Major: Business Analytics
Faculty Mentor: Cole, Laura Seery
Project Title: Celebrities on Social Media and Their Effect on Shareholder Wealth

#308 David Miller
Major: Business Analytics
Faculty Mentor: Zheng, Wei
Project Title: Understanding Collegiate Football Ticket Prices and Demand

#309 Kara White
Major: Business Analytics
Faculty Mentor: Fauver, Larry Anthony
Project Title: The Cost of Big Data: Evaluating the Effects of the European Union’s General Data Protection Regulation

#310 Luke Coscia
Major: Finance
Faculty Mentor: Kelley, Eric Kyle
Project Title: Strategies and Motives in M&A Transactions that Lead to Deal Success or Failure

#311 Christian Gates
Major: Finance
Faculty Mentor: Harris, Matt
Project Title: The Association Between Merit Aid and Migration and Education

#312 Hazen Page
Major: Finance
Faculty Mentor: Sims, Charles Boyd
Project Title: What Factors Contribute to Energy Leapfrogging?

#314 Sarah Bowman
Major: Marketing
Faculty Mentor: Bharadwaj, Neeraj
Project Title: INFLUENCER VERSUS BODY POSITIVE MARKETING: Perceived Brand Personalities in the Eye of the Target Consumer

#315 Annie Liu, Victoria Culpepper
Major: Global Studies
Faculty Mentor: Xiao, Yazhen
Project Title: "Customers Being Reviewed in the P2P Market: An Analysis of Content Generated by Service Providers"

#316 Harry Channing
Major: Mathematics
Faculty Mentor: Bozdogan, Hamparsum
Project Title: Autism’s Genetic Indicators: The Prediction of Autism through Modeling
The Herbert College of Agriculture

#317 Eric Boden
Major: Supply Chain Management
Faculty Mentor: Saunders, Lance Walter
Project Title: The Implementation of Lean Principles in College Athletics

#318 Connor Clarke
Major: Supply Chain Management
Faculty Mentor: Barksdale, Cheryl
Project Title: Building Better Teams: A Manager’s Guide to Team Personality

#319 Caroline Jones
Major: Supply Chain Management
Faculty Mentor: Tate, Wendy
Project Title: Scope 3 Greenhouse Gas Emissions: Whose Problem is it?

#320 Virginia Thomassy
Major: Supply Chain Management
Faculty Mentor: Bell, John Edward
Project Title: Robotics in Last Mile Delivery

#321 Emily Toye
Major: Supply Chain Management
Faculty Mentor: Bell, John Edward
Project Title: Education’s Role in Socially Sustainable Supply Chains

#322 Darlene Filomena
Major: Biosystems Engineering
Faculty Mentor: Abdoulmoumine, Nour
Project Title: The natural physical and chemical variability of hardwood woody biomass across the south east region.

#323 Sara Madgett
Major: Civil Engineering
Faculty Mentor: Abdoulmoumine, Nour
Project Title: Preliminary conceptual design of an on-site thermochemical conversion system of hazardous forest fuel into biochar at wildland-urban interface

#324 Kellie May
Major: Public Relations
Faculty Mentor: Zhuang, Jie
Project Title: How do you market FEWS research to the public?

#325 Justin Cross
Major: Food And Agricultural Business
Faculty Mentor: Velandia, Margarita M
Project Title: Labor Use and Labor Challenges Faced by Small Fruit and Vegetable Farms: The Case of Tennessee

#326 Niamh Schumacher
Major: Food Science
Faculty Mentor: Gill, Tom
Project Title: Barriers to Incorporating Animal Sourced Foods (ASF) into the Diets of Rwandan Broiler Chicken Farmers

#327 Emma Hessock, Emma Horn, Samantha Roberts, Casey Read
Major: Animal Science
Faculty Mentor: Moorey, Sarah E
Project Title: New Method to Determine Mitochondrial DNA Copy Number and ATP Quantity from a Single Oocyte

#328 Emma Horn, Emma Hessock, Samantha Roberts
Major: Animal Science
Faculty Mentor: Moorey, Sarah E
Project Title: Relating ATP Quantity and Mitochondria Number in Single Oocytes

#329 Samantha Roberts, Emma Horn, Emma Hessock
Major: Animal Science
Faculty Mentor: Moorey, Sarah E
Project Title: Cow age, BCS, and days postpartum impact resumption of estrus in beef cattle

#330 Molly Vancuren
Major: Animal Science
Faculty Mentor: Kerro Dego, Oudessa
Project Title: Antimicrobial Resistant Zoonotic Bacteria in Dairy Farms in East Tennessee

#331 Abigail Sallee
Major: Biochem/Cellular/Molecular Bio
Faculty Mentor: Lin , Jun
Project Title: Raccoon is a natural animal host for Escherichia albertii, the emerging human enteric pathogen

#332 Alana Messier
Major: Medical Laboratory Science
Faculty Mentor: Kwit, Charles
Project Title: Effects of ant chemical anabasine on plant fungal pathogen Botrytis Cinerea

#333 Melissa Demmitt
Major: Environmental/Soil Sciences
Faculty Mentor: Schaeffer, Sean Michael
Project Title: Seasonal and cover cropping effects on soil microbial respiration and inorganic N availability

#334 Karalee Corbeil
Major: Environmental/Soil Sciences
Faculty Mentor: Eda, Shigetoshi
Project Title: Electrochemical detection of serum antibodies for on-site diagnosis of Johne’s disease

#335 Karsten Parker, Jeffrey Rice
Major: Chemical Engineering
Faculty Mentor: Gray, Matt
Project Title: Effects of Watershed Degradation on Survival and Behavior of Cryptobranchus alleganiensis Larvae

#336 Alexander Funk, Caleb Keoho
Major: Ecology/Evolutionary Biology
Faculty Mentor: Lenaghan, Scott
Project Title: Lighting the Way: Bioluminescent Reporters in Plants
The Tickle College of Engineering

#348 Cody Hunter, Andrew Atchley, Blake Balogh
Major: Agricultural Engineering
Faculty Mentor: Tyner, John S
Project Title: Optimized Soil Infiltration Enhancement System

#350 Kaitlyn Nelms, Mary Morris
Major: Biosystems Engineering
Faculty Mentor: Hawkins, Shawn
Project Title: Poultry Farm Security Gate: Autonomous Vehicle Recognition System

#351 Jenna Williams, Emma Beach, Madison Oehler, Olivia Yates
Major: Biosystems Engineering
Faculty Mentor: Ludwig, Andrea Lorene
Project Title: Floating Treatment Wetland Testing and Optimization

#352 John Hill
Major: Chemical Engineering
Faculty Mentor: Trinh, Cong
Project Title: Design of Low Cost, Modular, High Throughput Bioreactors for Bacterial Fermentations

#353 Nathaniel Blalock
Major: Chemical Engineering
Faculty Mentor: Boder, Eric Thomas
Project Title: Protein Engineering Potential Inhibitor of Detrimental Immune Responses

#354 Noah Dunlap, Hyeongmin Seo
Major: Chemical Engineering
Faculty Mentor: Trinh, Cong
Project Title: Clostridium thermocellum Media Optimization for Cell Growth and Isobutanol Production

#355 Makayla Hyde, Jaclyn Choate
Major: Chemical Engineering
Faculty Mentor: Counce, Robert M
Project Title: Study Level Processes that Recover Thorium and Several Rare Earth Elements from Monazite Ore

#356 Michael Player
Major: Chemical Engineering
Faculty Mentor: Counce, Robert M
Project Title: Relationship of resistance and separation factor in the process of extracting lithium and potassium from brine

#357 Jacob Reynolds
Major: Chemical Engineering
Faculty Mentor: Abel, Steven Matthew
Project Title: Mechanical Feedback in the Active Search for Antigens by T Cells

#358 Lacey Roberts
Major: Chemical Engineering
Faculty Mentor: Zawadowski, Thomas Anthony
Project Title: Microemulsions in acidic and alkaline environments as electrolytes for energy storage

#359 Cora Smith
Major: Chemical Engineering
Faculty Mentor: Counce, Robert M
Project Title: The Effect of Acid Addition on Cation Exchange Membrane Transport and Separation


#360 Abdullah Salim, Priscilla Pineda, Isabella Alimilla, Andrew Putt
Major: Biological Sciences
Faculty Mentor: Hazen, Terry C
Project Title: A Novel Approach for Characterizing the Ultra-Micro Size-Fraction Community

#361 Tyler Galyon
Major: Civil Engineering
Faculty Mentor: Alshibli, Khalid
Project Title: Experimental Study of Crack Propagation in Single Crystal Halite (Rock Salt) Using Digital Image Correlation Techniques

#362 Colby Gilbert, Luke Edwards
Major: Civil Engineering
Faculty Mentor: Penumadu, Dayakar
Project Title: Analysis of Fiber Addition Affects to Cement Based Composites for Use in Additive Manufacturing Applications

#363 Ruichen Guo
Major: Civil Engineering
Faculty Mentor: Wierschem, Nicholas Edward
Project Title: The Application of Tuned Mass Damper

#364 Andrew Patchen
Major: Civil Engineering
Faculty Mentor: Penumadu, Dayakar
Project Title: The Effects of Defects in Elium Based Thermoplastics Fiber Reinforced Composites

#365 Jonathan Bryan
Major: Computer Science
Faculty Mentor: Zhao, Xiaopeng
Project Title: The Applications of EEG Waves Using Brain-Computer Interface Software

#366 Teesha Brown
Major: Industrial Engineering
Faculty Mentor: Khojandi, Anahita
Project Title: Early Prediction of Alzheimer’s Disease Using Optic Flow Event Related Potentials: Combining Trials and Tasks to Improve Performance

#367 Kalina Scarbrough
Major: Industrial Engineering
Faculty Mentor: Khojandi, Anahita
Project Title: Identifying a Minimal Set of Sensors to Predict Soil Moisture in Real-Time in Green Infrastructure

#368 Mollie Turner
Major: Industrial Engineering
Faculty Mentor: Khojandi, Anahita
Project Title: Early Prediction of Alzheimer’s Disease Using Optic Flow Event Related Potentials: Extracting Better Features to Improve Performance

#369 Kate Eikel
Major: Materials Science & Engineering
Faculty Mentor: Hu, Bin
Project Title: Fine-Tuning Mechanisms of Crystal Growth for Large Scale Application

#370 Reece Emery
Major: Materials Science & Engineering
Faculty Mentor: Rack, Philip D
Project Title: Surface, Interface, and Temperature Effects on the Phase Separation and Nanoparticle Self Assembly of Bi-Metallic Ni0.5Ag0.5: A Molecular Dynamics Study

#371 Ian Greeley
Major: Materials Science & Engineering
Faculty Mentor: Melcher, Chuck
Project Title: Effect of growth stability on optical and scintillation homogeneity in LSO:Ce, Ca crystals

#372 Alexander Greenhalgh
Major: Materials Science & Engineering
Faculty Mentor: Keffner, David J
Project Title: Visualization and Metrics of Atomic Ordering

#373 Caitlin Harpell
Major: Materials Science & Engineering
Faculty Mentor: Rawn, Claudia J
Project Title: Synthesis and Characterization of the KCl:MgCl2 System

#374 Ryan Heldt, Rakesh Kamath, Logan White
Major: Materials Science & Engineer
Faculty Mentor: Choo, Hahn
Project Title: Effects of Processing Parameters on Successive Melt-Pool Development in Laser-Fusion Processing of Ti-6Al-4V Alloys: An In-Situ Dynamic Synchrotron Radiography Study

#375 Madeline Loveday
Major: Materials Science & Engineer
Faculty Mentor: Zhuravleva, Mariya
Project Title: A Comparative Analysis of High-Entropy Ceramics Prepared Via Steric Entrapment and Solid-State Synthesis Methods: Structure, Homogeneity, and Grain Size

#376 Alexander Richter
Major: Materials Science & Engineer
Faculty Mentor: Keffner, David J
Project Title: Lithium and Sodium Ion Binding in Nanostructured Carbon Composites

#377 Cullen Pearson
Major: Materials Science & Engineer
Faculty Mentor: Sickafus, Kurt Edward
Project Title: Investigating Chemical and Mechanical Inhomogeneity in Pattern Welded Steel

#378 Jace Pittman, Clifton Sluss
Major: Materials Science & Engineer
Faculty Mentor: Keffner, David J
Project Title: Entropy Calculation from Molecular Dynamics Simulation

#379 Robert Spurling
Major: Materials Science & Engineer
Faculty Mentor: Compton, Brett Gibson
Project Title: Characterization of B6Si as an Active Filler for 3D Printing
#381 Logan White, Ryan Heldt, Rakesh Kamath
Major: Materials Science & Engineer
Faculty Mentor: Choo, Hahn
Project Title: An in-situ x-ray synchrotron radiography study of the effect of melt-strategy parameters on solidification dynamics in laser fusion processing of Ti-6Al-4V alloy

#382 Natalie Wieber, Natalie Wieber
Major: Materials Science & Engineer
Faculty Mentor: Rawn, Claudia J
Project Title: Identifying Correlations between Powder Feed stock Properties to Assist Binder Jet Print Setting Development

#383 Sara Wonner
Major: Materials Science & Engineer
Faculty Mentor: Wetteland, Chris
Project Title: Mechanical Testing of Tungsten-Steel Laminate Composites for use in Fusion Applications

#384 Quinton Wright
Major: Materials Science & Engineer
Faculty Mentor: Keppens, Veerle
Project Title: Microfluidic Synthesis and Characterization of Lead Iodide Perovskite Nanoplatelets

#385 Caleb Weatherly, Shailesh Alwekar
Major: Aerospace Engineering
Faculty Mentor: Vaidya, Uday Kumar
Project Title: Continuous Fiber Reinforced Thermoplastic Tape Over-molding of Long Fiber Thermoplastic

#386 Lauren Jennings, Kayla Arnsdorff
Major: Biomedical Engineering
Faculty Mentor: Faber, Courtney June
Project Title: ‘This Seems Reasonable’: Using Metacognition and Epistemic Cognition to Justify the Reasonableness of Solutions in Senior Design

#388 Michael Buckley
Major: Mechanical Engineering
Faculty Mentor: Rucker, Daniel Caleb
Project Title: Finite Element Analysis of Laser-Cut, Tubular Robots for Surgical Applications

#389 Jessie Ringley
Major: Mechanical Engineering
Faculty Mentor: Sarles, Stephen Andrew
Project Title: Kinetic Characterization of Monazomycin for Neuromorphic Computing

#390 Jackson Wilt
Major: Mechanical Engineering
Faculty Mentor: Compton, Brett Gibson
Project Title: A Machine Learning Approach to Accelerate Auxetic Metamaterial Design

#391 Thomas Davis
Major: Nuclear Engineering
Faculty Mentor: Lukosi, Eric Daniel
Project Title: Potassium-40 Background Suppression in KSr2I5:Eu2+

#393 Ketaki Joshi
Major: Nuclear Engineering
Faculty Mentor: Melcher, Chuck
Project Title: The Effect of Annealing and Stoichiometry on the Scintillation Properties of Cesium Hafnium Chloride

#394 Cale Overstreet
Major: Nuclear Engineering
Faculty Mentor: Lang, Maik Kurt
Project Title: Layer-Stacking Model in A2BO5 Oxides

#395 Luke Seifert, Alexander Wheeler
Major: Nuclear Engineering
Faculty Mentor: Chvala, Ondrej
Project Title: Material Flows and On-line Reprocessing in Serpent
Research presented at the 24th Annual Exhibition of Research and Creative Achievement benefitted, or was conducted in conjunction with the following organizations:

Tuskegee Multicultural Center
Oak Ridge National Laboratory
U.S. Department of Homeland Security
United States Agency for International Development (USAID) African Red Cross
Knox County Health Department
Hope Resource Center
Children’s Center of Knoxville
National Aeronautical and Space Administration (NASA)
Big Brothers Big Sisters of East Tennessee
Pat Summitt Clinic
East Tennessee Children’s Hospital
Cherokee Health Systems
The Boys & Girls Club of East Tennessee Valley
Vine School Health Center
Helen Ross McNabb ILS
Health Connect America
Centro Hispano
East Tennessee Human Resource Agency
McClung Museum of Natural History and Culture
National Science Foundation (NSF)

Amachi Knoxville
Emerald Youth Foundation
Boys and Girls Club South Knox Elementary
Emerald Youth Foundation
Knox Area Rescue Ministry
Thrive Lonsdale
The Dream Connection
Boys & Girls Club
Knoxville Dream Center
InterFaith Health Clinic
Kid’s Heights
Little Oaks Academy
The University of Tennessee Medical Center, High-Risk Obstetric Clinic John T. O’Connor Senior Center
Tennessee Space Grant Consortium
Alzheimer’s Tennessee - Howard Circle of Friends
YWCA
Girls Inc. of the Tennessee Valley
Fort Sanders Regional Medical Center
Wesley House Community Center
Windsor Gardens Assisted Living
Helen Ross McNabb, Sexual Assault Center of East Tennessee

The Precious Prints Project
Cherokee Health Systems
Borderland Tees Butterfly Garden
Thrive Parkridge
Cedar Springs Weekday School
Kid’s First CAC of 9th Judicial District
Knoxville Area Rescue Ministries (KARM)
Great Smokey Mountains National Park
Haiti Christian Development Fund
Knox County Rescue Ministry
Children’s Center of Knoxville
Tennessee Wildlife Resources Agency
SHADES of Development
Salvation Army
Air Force Office of Scientific Research
Morning View Assisted Living Facility- The Memory Care Unit
Bob and Jenny’s Garden