

T UNDERGRADUATE RESEARCH & FELLOWSHIPS

*26th
annual*

EURēCA

Exhibition of Undergraduate Research and Creative Achievement



April 25, 2022

Table of Contents

Welcome Letter	2
Judging Divisions	3
Division Representatives	4
2022 Schedule of Events	5
College of Architecture and Design	6
College of Architecture and Design, School of Design	7
College of Arts and Sciences, Humanities	7
College of Arts and Sciences, Natural Sciences	8
College of Arts and Sciences, Social Sciences	10
College of Arts and Sciences, Visual and Performing Arts/Music	11
College of Arts and Sciences, School of Music	12
College of Education, Health, and Human Sciences	12
College of Nursing	13
College of Social Work	22
Haslam College of Business	23
Herbert College of Agriculture	24
Tickle College of Engineering	26

Welcome to the University of Tennessee's 26th 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 and Fellowships coordinates this unique competitive showcase to encourage, support, and reward undergraduate participation in the campus research enterprise. Participating in campus research empowers students to produce original work, develop and cultivate faculty mentoring relationships, enhance their resumes, become more competitive when applying to graduate school, and lay the groundwork for prestigious fellowships. EURēCA continues to expand its opportunities to participate. We are excited to host the in-person exhibit in addition to an online interactive database, and are proud of our students' resilience during this time as they adjust to an ever-changing landscape. 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 and Fellowships 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,

The University of Tennessee
Office of Undergraduate Research and Fellowships

EURēCA

Exhibition of Undergraduate Research & Creative Achievement

We are excited to bring back the in-person showcase of research while continuing to showcase research posters and video presentations online at symposium.foragerone.com. Although the global COVID-19 pandemic has presented a challenging landscape, our students continued their pursuit of knowledge and creative works, and we are proud of their resilience and flexibility. Their 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, Visual and Performing Arts
College of Arts and Sciences, School of Music
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

2022 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

Paul Lee
College of Arts & Sciences,
School of Art

Kevin Kit
Tickle College of
Engineering

Jeremiah Johnson
College of Arts &
Sciences,
Natural Sciences

Tracy Moir-McClean
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

Bill Nugent
College of Social Work

Stefanie Ohnesorg
College of Arts &
Sciences,
Humanities

Suzie Allard
College of Communication
and Information

Beth Meko
College of Communication
and Information

Virginia Fowler
College of Nursing

Gina DiSalvo
College of Arts & Sciences,
Department of Theatre

Kathleen Thompson
College of Nursing

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

Office of Undergraduate Research and Fellowships

Andrew Seidler, Director
Erin Darby, Faculty Director
Laura DeFurio, Assistant Director
Janna Caspersen, Assistant Director
RK Fauth, Writing Specialist
Julianna Tullos, Program Coordinator
Mari LaCure, Administrative Specialist
Sandra Wairimu, Graduate Assistant

Exhibition of Undergraduate Research and Creative Achievement

2022

Schedule of Events

Monday, April 25

4:30 p.m. – 5:00 p.m. EURēCA Kickoff:

Vice Provost for Student Success Amber Williams,
Provost John Zomchick,
and URF Staff

Pilot Flying J Ballroom

5:00 p.m. – 8:00 p.m. Exhibition opens for judging and viewing

Pilot Flying J Ballroom

Monday, May 2

5:30 p.m. – 7:00 p.m. EURēCA Awards Ceremony

EURECA Division Representatives,
and URF Staff

Alumni Memorial Building

We invite you to view the research posters from this year's event at
symposium.foragerone.com

EURēCA 2022

College of Architecture and Design

#3 An Introduction to Representing Non-Euclidean Spaces

Presenter: Shakori Carpenter
Mentor: Tracy W. Moir-McClean

#4 Ford Automotive Experience Center

Presenters: Zachary Dulin,
Nicholas van Son, Michael Jenks
Mentor: Hansjoerg Goeritz

#5 Cone's Camp & Residency

Presenters: Carson Fischer,
Hannah Lessem, Hector
Carrera Miranda
Mentor: Katherine Ambroziak

#6 A Design Guideline for Humanity in Extreme Environments

Presenter: Erin Ganserer
Mentor: Milagros Zingoni

#7 Architectural Reuse and the Welfare Institutions of Late Antique Rome

Presenter: Zachary Graham
Mentor: Gregor Kalas

#8 The Biotic Machine: WHO Headquarters

Presenters: Sarina Hermanto,
Elijah Hale, Rose Crawford
Mentor: Brian Ambroziak

#9 Breaking Barriers

Presenters: Lauren Johnson,
Mary Catherine McGovern,
Hannah Phillips
Mentor: Katherine Ambroziak

#10 Immigrants & Urbanism: Perspectives into Ethnic Enclave's History - Chinatown

Presenter: Singwei Ling
Mentor: Hochung Kim

#11 Spatial Echelons: An Exposé on Power in the Built Environment

Presenter: Sarah Lloyd
Mentor: Jennifer Akerman

#12 Middlesboro Masterplan

Presenters: Gunner Martin,
Logan Guidera, Emily Slappy,
Kayla Moretti
Mentor: Katherine Ambroziak

#13 R.I.I.V.E.R.

Presenters: Joanna Martin,
Jacob Rabideau, Olivia
Campbell, Emily Swarzenberg
Mentor: Katherine Ambroziak

#14 Patchwork Colossus

Presenters: Briley Houston,
Edyn McCarty, Tyler Trent
Mentors: Katherine Ambroziak,
David Matthews

#15 The Appalachian Spark

Presenters: Perto Michel,
Austyn balcom, Rebecca Neale,
Madison Leebrick
Mentor: Katherine Ambroziak

#16 W.H.O. STATION

Presenters: Jakob Mikres,
Kathleen Rice, Mary Powers,
James Casey
Mentor: Brian Ambroziak

#17 Death Valley Motel

Presenter: Gina Nguyen
Mentor: Brian Ambroziak

#18 Spatial Ebonics: Redefining Identity through the exploration of Black Space and Architectural Language

Presenter: Gianna Noel
Mentor: Jennifer Akerman

#19 The Unfamiliar Familiar: An Exploration into the Architectural Uncanny

Presenter: Jessica Peters
Mentor: Jennifer Akerman

#20 What are the inhabitable characteristics of Prehistoric caves, dwellings, and settlements that can be applied to modern-day architectural design?

Presenter: Olivia Robbins
Mentor: Marie Saldaña

#21 Impact! An exploration of Urban Ecosystems

Presenter: Sophia Spock
Mentor: Jennifer Akerman

#22 Design-Build STEAM Trailer: Partnering with 6th Graders as Co-designers

Presenters: Elizabeth Tondreau,
Jacob Abdu, Autumn Hanks,
Emily Roach
Mentor: David Matthews

#23 Thickening the Membrane: Integrating lightweight sheet material and extruded plastics to refine modular additive construction techniques

Presenters: Nicholas Van Son,
Matthew Baumgartner, Trey
Robbins, Cayden Masters, Jonah
Zahn, Stephen Kelley, Evan
Filson
Mentor: Marshall Prado

EURēCA 2022

#24 Guerrilla Museology: By All Means Necessary

Presenter: Brendan Wallace
Mentor: Jennifer Akerman

#25 Hill Hub: A Strategy for Supporting Appalachian Neighborhood Connectivity

Presenters: Bradford Webster, Rebecca Mull, Mary Grace Shuttleworth, Emily Roach
Mentor: Katherine Ambroziak

#26 Mend: Redefining the Appalachian Holler Through Interconnecting Family and Place

Presenters: Camryn Weekly, KariBeth Propes, Christina Cenicerros
Mentors: David Matthews, Katherine Ambroziak

#28 Bee Aware

Presenters: Kennedy Davis, Ché Davis
Mentor: Cary Staples

College of Architecture and Design, School of Design

#29 The Future of Human Ecosystems

Presenter: Gabriel Eckstein
Mentor: Cary Staples

#30 Coping

Presenter: Leah Falin
Mentors: Cary Staples, Susan Kalisz

#31 Coping Companion: Anxiety Tracking App

Presenter: Jua Im
Mentor: Cary Staples

#32 Eco-Chess

Presenters: Victoria Wheelock, Jacqueline Juneau, Jacob Hirschmann
Mentor: Cary Staples

#33 Savor the Invasion

Presenter: Kailey Kear
Mentor: Cary Staples

#34 Fantasy Flora Warfare

Presenter: Howard Mosby
Mentor: Cary Staples

#35 Plant Smack

Presenter: Abigail Ramirez
Mentors: Dr. Susan Kalisz, Cary Staples

#36 NUDNIK

Presenter: Matt Rightsell
Mentor: Cary Staple

#37 Sundry

Presenters: Julie Simpson, Henry Dunning, Avery Jones
Mentor: Professor Cary Staples

#38 Design in the World of VR Gaming

Presenter: Casey Taylor
Mentor: Cary Staples

#39 Golden Garden

Presenter: Ashleigh Williams
Mentor: Cary Staples

College of Arts and Sciences, Humanities

#40 Reproductive Rights, Racism, and Nationalism in Modern Israel

Presenter: Inshira Bediako
Mentor: Dr. Helene Sinnreich

#41 Vikings, Anglo-Saxons, and England: The Germanic revival of the 9th, 10th, and 11th centuries

Presenter: Amanda Boeing
Mentor: Dr. Scott Mackenzie

#42 Haredi (Ultra-Orthodox Jewish) Women's Fine Art in Israel

Presenter: Emily Constantin
Mentor: Helene Sinnreich

#43 'Buy Jewish' and 'Buy American': Consumer Nationalism and Evangelical Holy Land Pilgrimage

Presenter: Daniel Dassow
Mentor: Dr. Helene Sinnreich

#44 Peers, Professors, and Passersby: Antisemitism and Antizionism on College Campuses Across America

Presenter: Leah Faupel
Mentor: Helene Sinnreich

#46 Zionism as a Religious and Cultural Movement

Presenter: Chad Larkin
Mentor: Helene Sinnreich

#47 Contemporary Challenges and Changes to Traditional Models of Haredi Education

Presenter: Elizabeth Plant
Mentor: Helene Sinnreich

#48 The Legality of and Reason for Balfour Declaration

Presenter: Aaron Norton
Mentor: Helene Sinnreich

#49 Zionism's Masada: The Myth versus the Archaeology

Presenter: Madison Smith
Mentor: Helene Sinnreich

EURēCA 2022

#50 The Political Nature of Trade in the Israel-Palestine Conflict

Presenter: Austin Tallent
Mentor: Dr. Helene Sinnreich

#51 Prosodic Variation Between Autistic and Allistic Individuals By Gender

Presenter: Isabelle Toth
Mentor: Dr. Jessica Grieser

#52 Israel's Silent Holocaust Survivors

Presenter: Jennifer Ware
Mentor: Helene Sinnreich

College of Arts and Sciences, Natural Sciences

#54 Cytoplasmic Chemoreceptors Modulate Chemotaxis Sensitivity in *Azospirillum brasilense*

Presenter: Mustafa Abdulhussein
Mentors: Elena Ganusova, Gladys Alexandre

#55 Investigating biofilm formation in a nematode-bacterium symbiosis

Presenter: Omar Alani
Mentor: Dr. Jenny Heppert

#56 Phylogenetic Analysis of Shifts in Sponge Skeletal Complexity

Presenter: John Anderson
Mentor: Brian O'Meara

#57 Abundance of Pollinators Associated with Plant Traits

Presenter: Sydney Baldwin
Mentor: Laura Russo

#58 Post-fire Endophyte Succession in Table Mountain Pines

Presenter: Findlay Black
Mentor: Dr. Karen Hughes

#59 Synthesis of Symmetric Water Soluble N-Heterocyclic Carbene Ligands for AuNPs

Presenter: Rowan Borsari
Mentor: Dr. David Jenkins

#60 Deep Learning algorithms aid in identifying movement kinematics important for pup retrieval behavior

Presenter: Benjamin Bridges
Mentor: Dr. Keerthi Krishnan

#61 Synthesis of C2-symmetric Chiral Diimidazoles for NHC Macrocyclic Construction for Catalytic Applications

Presenter: Henry Brothers
Mentor: Dr. David Jenkins

#61 Comparison of Methane and Sulfur Cycling in Cape Lookout Bight and White Oak River Estuary

Presenter: Gage Coon
Mentor: Karen G. Lloyd

#62 Exploring Noncovalent Interactions of Molecular Models of Van der Waals Heterostructures

Presenter: Carmen Brown
Mentor: Konstantinos D. Vogiatzis

#64 The characterization of synchronous two-state probabilistic cellular automata

Presenter: Garrett Byrd
Mentor: Dr. Vitaly Ganusov

#65 See "Agricultural Land Use Affects the Body Size of Some Bees" on page 24, column 3

#67 Raman Spectroscopic Characterization of UV Degraded Emulsion Lotions with and without Protective Additives

Presenter: Isabelle Dancer
Mentor: Bhavya Sharma

#68 Tracking of genetically modified bacterial symbiont from the pea aphid to post-infection fungal spores

Presenter: Yazmin De anda Acosta
Mentor: Benjamin J. Parker

#69 Investigating Changes in Canopy Cover and Tree Community Composition in High Elevation Ecosystems in the Great Smoky Mountains National Park

Presenter: Susanna Diamond
Mentor: Jessica M Budke

#70 Effect of Ethylene in Biofilm Formation in *Azospirillum brasilense*

Presenter: Lauren Donnelly
Mentor: Brad Binder

#71 Plasmid Stability in *Sulfitobacter pontiacus* CB-D

Presenter: Hannah Edwards
Mentor: Alison Buchan

#72 Effects of herbivory and increased temperatures on photosynthetic rates of *Viola rostrata*

Presenter: Drew Freshour
Mentor: Dr. Susan Kalisz

EURēCA 2022

#73 Isolated Microbes from a Briny Antarctic Ocean Worlds Analog

Presenter: Kristen Holbrook
Mentor: Dr. Jill Mikucki

#74 Experimental Evidence For Liquid Iron Alloy Flotation On Silicate Melt

Presenter: Noah Hooper
Mentor: Nick Dygert

#75 A Mathematical Model of Biomolecular Treadmilling Dynamics

Presenter: Victoria Howard
Mentor: Ioannis Sgouralis

#76 Fast and comprehensive analysis of perineuronal net expression across the whole brain

Presenters: Sami Isaac, Miranda Blevins, Sarah Perez
Mentor: Keerthi Krishnan, PhD

#78 Drug Discovery for Polycystic Kidney Disease

Presenter: Austin Jernigan
Mentor: Dr. Nicholas Smith

#79 Reducing Perineuronal Nets in Primary Somatosensory Cortex Rescues Pup Retrieval Behavior in Female Mouse Model of Rett Syndrome

Presenter: Beyza Kartal
Mentor: Keerthi Krishnan

#80 Molten Ferrofluid

Presenters: Ellie Kim, Dianna Nguyen
Mentor: Sheng Dai

#81 Quantifying Movement Kinetics of Plasmodium Sporozoites in Skin

Presenters: Anderson King, Kailynn Deck
Mentor: Vitaly Ganusov

#82 Exploring the Role Ethylene has on Growth and Metabolism in Azospirillum brasilense

Presenter: Josie King
Mentor: Scott Carlew

#83 The Future of Forest Wildflowers: How Climate Warming and Herbivory Affect Growth and Reproduction of the Long-Spurred Violet

Presenter: Nicholas Koziol
Mentor: Susan Kalisz

#84 Plant-neighbor interactions of a native goldenrod impact richness and composition of pollinator communities

Presenter: Emma Kruse
Mentor: Jennifer Schweitzer

#85 Impact of Conformational Restriction on Tetraazacyclododecane Ligands for Atom Transfer Radical Polymerization

Presenter: Nick Legaux
Mentor: Brian Long

#86 The Untold Story of Mouse Insulin 1 & Insulin 2

Presenter: Connor Long
Mentor: Thanh Do

#87 Identifying Novel Genes Regulating Leaf Initiation and Meristem Size Through an Enhancer Genetic Screen

Presenter: Bethany Lunsford
Mentor: Dr. Elena Shpak

#88 Within-Host Mathematical Modeling of Influenza A and B Viral Dynamics During Treatment

Presenter: John Maddox
Mentor: Dr. Vitaly Ganusov

#89 Age dependent tactile sensory deficits in a female mouse model of Rett syndrome

Presenter: Alexandra McBryar
Mentor: Keerthi Krishnan

#90 Teamwork makes infections work: Investigating different models of viral cooperativity

Presenter: Joshua Miller
Mentor: Vitaly V. Ganusov

#92 Extracellular enzyme activities and mineralogy of thawing permafrost soils near Ny Alesund, Svalbard

Presenter: Cheyenne Mireles
Mentor: Andrew Steen

#93 Examining Gut-Brain Axis Interactions Through Entomopathogenic Nematodes and Their Bacterial Endosymbionts

Presenter: Tyler Myers
Mentor: Dr. Heidi Goodrich-Blair

#94 Single-Molecule Studies on DNA Bending by Transcription Factor Protein Sox2

Presenter: Chandni Naidoo
Mentor: Dr. Rajan Lamichhane

#95 Fungal communities may mediate aboveground biomass in increasingly diverse plant communities

Presenter: Alivia Nytko
Mentor: Dr. Jen Schweitzer

EURēCA 2022

#96 Investigating evolutionary relationships between moss species in the genus Fissidens using DNA sequence data from herbarium specimens

Presenter: Amy Okafor
Mentor: Dr. Jessica M. Budke

#97 See "Substance Use is More than a Test" on page 10, column 3

#98 Activated CD8 T cells perform persistent random walks and not Levy walks in the brain

Presenter: Dhruv Patel
Mentor: Vitaly Ganusov

#99 Evolution of bud break phenology in Populus angustifolia driven by climatic variation

Presenter: Katherine Reed
Mentor: Jennifer Schweitzer

#100 Rapid and Improved Surface Passivation Method for Single-Molecule TIRF Experiments

Presenter: Anthony Rios
Mentor: Rajan Lamichhane

#101 Deep Tissue Detection of N-Heterocyclic Carbene Gold Nanoparticle Probes With SESORS

Presenters: Nicholas Robins, Quen Deckbar, Tarek Atyia, Lillian Mooney
Mentor: Bhavya Sharma

#102 The Effect of Meteoric Fluids on Deformation in the Cordillera Blanca Shear Zone

Presenter: Lena Schwebs
Mentor: Micah Jessup

#103 Investigation into the Identity and Function of Ruegeria pomeroyi DSS-3 Pigment Production

Presenter: Taylor Smith
Mentor: Alison Buchan

#104 Encoding Angular Information in Persistent Images for Machine Learning Algorithms

Presenter: Jacob Steeley
Mentor: Dr. Konstantinos D. Vogiatzis

#105 Identification of Optimal Affinity Tag for C. albicans Cho1 Protein Purification

Presenter: Jawhar Syed
Mentor: Todd Reynolds

#106 Genetic Analysis of a Sequence Motif in DNA Elimination

Presenter: Vincent Terta
Mentor: Jianbin Wang

#107 Exploring Mu-Opioid Receptor Dynamics Using Single-Molecule Fluorescence

Presenter: Raegan Van Wirt
Mentor: Dr. Rajan Lamichhane

#108 Biochemical role of the plant GCN2-eIF2 α module in mRNA ribonucleoprotein particle homeostasis

Presenter: Lindsey Young
Mentor: Albrecht von Arnim

College of Arts and Sciences, Social Sciences

#97 Substance Use is More than a Test

Presenter: Madison Owens
Mentor: Erin Darby

#109 Does mixed-species flock size and composition influence foraging and calling under risky contexts?

Presenter: Colton Adams
Mentor: Todd Freeberg

#110 Influence of Speaker Type and Group Child Care Experience on Word Learning in Toddlers

Presenters: Reva Bagi, Makenzie Sims, Noah Bosilca, Sadira Austin
Mentors: Jessica Hay, Daniela Santos Oliveira

#111 Interrupting Dynamics: How the Supreme Court's Switch to Teleconferences During COVID Altered Patterns of Interruptions

Presenter: Gavin Buehring
Mentor: Dr. Kirsten Widner

#112 Exploring Early Colonial Animal Management Practices in Virginia: A View from Coan Hall

Presenter: Keri Burge
Mentor: Anneke Janzen

#113 The Impact of Inattention and Working Memory Difficulties on Children's Social Functioning and Friendships

Presenter: Alyssa Cooley
Mentor: Jennifer Bolden Bush

EURēCA 2022

#114 Connection between Sleeping Habits and Academic Success in times of a Global Pandemic

Presenter: Zachary Coover
Mentor: Dr. Lance Dean

#115 An Assessment of the Dynamics of Social Play in Syrian Hamsters

Presenter: Leila Hennon
Mentor: Matthew Cooper

#116 The Archaeology of 17th-century Conflicts along the Potomac River: A Case Study from Coan Hall

Presenter: Axel Huichapa
Mentor: Dr. Barbara J. Heath

#117 Alcohol use moderates the association between coercive sexting and intimate partner violence perpetration

Presenter: Mary Jensen
Mentors: Dr. Gregory Stuart,
Alisa Garner

#118 The Effects of Caffeine Usage at Different Times of the Day on Sleep Quality

Presenters: Alysia Kang,
Jacqueline Gonzalez, Andrea
Mcdowell
Mentor: Hollie Pellosmaa

#119 Scientific Patterns of Behavior and Neural Activity in Female Syrian Hamsters Following a Stressful Event

Presenter: Jessica Kearney
Mentor: Matthew Cooper

#120 The Effects of Social Play on Stress-Induced Anxiety

Presenter: Benjamin Kilgore
Mentor: Matthew A. Cooper

#121 A Chinese Olive Branch to the West: The Promising Tropical Island, Hainan

Presenter: Peibo Li
Mentor: Dr. Wonjae Hwang

#122 The development of tone discrimination in infancy: An online adaptation

Presenters: Ashlynn Malone,
Sophia Diorio, Chloe Fleenor,
Alyssa Lee, Juliana White
Mentor: Jessica Hay

#123 Neural Activation During Semantic Category Learning: An fNIRS Study of Language Lateralization in Children and Adults

Presenter: Alexis McCraw
Mentor: Aaron Buss

#124 Summary statistics for simultaneous tornado and flash flood (TORFF) warnings to analyze their general behavior and dynamics

Presenter: Zachary Medley
Mentor: Dr. Kelsey Ellis

#125 Investigation of the Ectocranial Squamosal Suture to Estimate Age-at-Death

Presenter: Navit Nachmias
Mentor: Dr. Joanne Devlin

#126 Exploring the Effect of Alcohol Use and Benevolent Childhood Experiences on the Relation Between Borderline Personality Disorder Symptoms and Intimate Partner Violence Perpetration

Presenter: Krissy Paradissis
Mentor: Dr. Gregory Stuart

#127 Who Sets the Human Rights Agenda?

Presenter: Nolan Ragland
Mentor: Dr. Jon Ring

#128 Black Feminist History Timeline

Presenter: Isabella Reed
Mentor: Dr. Danielle Procope
Bell

#129 A Neurophysiological Investigation of Listening Effort in Normal Hearing Adults using fNIRS and Pupillometry

Presenter: Jubin Son
Mentor: Caglar Tas

#130 "It feels like nobody's watching me!" A Case Study of Readers' Theatre with African Immigrant and Refugee Students

Presenter: Denee Stewart
Freeman
Mentor: Deborah Welsh

#131 What are the Effects of Gonadal Steroid Hormones on the Presence of Perineuronal Nets in the Ventromedial Hypothalamus in c/57 Mice?

Presenters: Courtney Tolbert,
Micah Igot
Mentor: Kalynn Schulz

College of Arts and Sciences, Visual and Performing Arts/ Music

#132 Callaway: Examining the Present with the Past

Presenter: Emily Pope
Mentor: Dr. Gina Di Salvo

EURēCA 2022

College of Arts and Sciences, School of Music

#133 An analysis on the compositional techniques of Donkey Kong Country and Donkey Kong 64

Presenter: Garrett Byrd
Mentor: Dr. Brendan McConville

#134 Notes About Nothing: Seinfeld and the End of the Sitcom Theme Song

Presenter: Alan Cook
Mentor: Dr. Nathan Fleshner

College of Education, Health, and Human Sciences

#135 Hydration and Health: College Student Behaviors and Priorities

Presenter: Jacob Altrock
Mentor: Dr. Sarah Colby

#136 Navigating Hidden Hunger: An Exploratory Analysis of the Lived Experience of Food Insecurity Among College Students

Presenters: Ashlyn Anderson, Jacqui Lazarus
Mentor: Betsy Anderson Steeves

#137 Food acquisition behavior for those at-risk for food insecurity at the beginning of the COVID-19 pandemic

Presenter: Sydney Bernard
Mentor: Dr. Sarah Colby

#138 Demographic characteristics of women reporting higher stress at the beginning of the COVID-19 pandemic.

Presenter: Hanna Boshnag
Mentor: Dr. Sarah Colby

#139 BetterBus

Presenters: Karrie Bowen, James Tatum, Laura Gullledge
Mentor: Yolanda Kirkpatrick

#140 Genetic Ablation and Pharmacological Inhibition of Soluble Epoxide Hydrolase in the β -Cells Enhance Glucose-Stimulated Insulin Secretion

Presenters: Cole Bozeman, Kerrigan Magnus
Mentor: Ahmed Bettaieb

#141 Moms and Vaccines: A Cross-Sectional Survey Assessing COVID-19 Vaccine Acceptance During Pregnancy

Presenter: Sara Burnette
Mentor: Samantha Ehrlich

#142 Regulation of thermogenic adipogenesis via the PKM2/ β -catenin axis

Presenter: Jenna Demeter
Mentor: Ahmed Bettaieb

#143 Reduce, Reuse, Recreation: Redesigning Local Playgrounds for a Sustainable Future

Presenters: Courtney Drennen, Daniel Blackburn, Austin Marsh
Mentor: Yolanda Kirkpatrick

#144 Ginsenoside-Rc Alleviates Palmitate-Induced Cell Injury in Primary Cochlear Cells

Presenter: Nick Gill
Mentor: Dr. Ahmed Bettaieb

#145 Who was more likely to become less active at the beginning of COVID-19?

Presenter: Jacob Hahn
Mentor: Dr. Sarah Colby

#146 Demographic Characteristics of Individuals Experiencing Changes in Stress and Boredom Eating Habits During the COVID-19 Pandemic

Presenter: Rhea Joshi
Mentor: Sarah Colby

#147 W3Design Homes

Presenters: Janyia Joyner, Sarah Jennings, Benjamin Bridges
Mentor: Yolanda Kirkpatrick

#148 A Case Study: acute continuous interstitial glucose measurements during various types, intensities, and durations of exercise in a Type I diabetic.

Presenter: Valeria Lozano
Mentor: Jessica Kutz Fleming

#149 Novel Insights into the Role of Soluble Epoxide Hydrolase in Adipogenesis

Presenters: Caroline Macfee, Eduardo Villalobos
Mentor: Ahmed Bettaieb

#150 Hazing and Leadership: Do student leaders have the ability to break the cycle?

Presenter: Dariana Martre
Mentor: James Williams

EURēCA 2022

#151 Supporting Science Teacher Learning through Capturing and Selecting Video of One's Own Classroom

Presenter: Brandon Meadows
Mentor: Dr. Elizabeth Dyer

#152 Merchandising Strategies for the Big Orange Pantry

Presenter: Madison Morgan
Mentors: Dr. Michelle Childs, Dr. Christopher Sneed

#153 Play and the Built Environment

Presenter: Hannah Morris
Mentors: Dr. Margaret Quinn, Michael Camponovo

#154 Vaccination Behavior and Beliefs in Individuals with Pregnancy Hyperglycemia

Presenter: Emily Olatt
Mentor: Samantha Ehrlich

#155 Adults with Chronic Disease and Older Adults, Regardless of Chronic Disease Status had Increased Stress and Worry at the Beginning of COVID

Presenter: Chloe Potter
Mentor: Sarah Colby

#156 Impact and Implementation of a Structured Phonological Awareness Intervention for Children who Benefit from AAC: Picture Validation Test

Presenter: Isabelle Toth
Mentor: Dr. Jillian McCarthy

#157 The Relationship between Working Memory and Speech in Noise

Presenter: Alexis Williams
Mentor: Dr. Eun Jin Paek

#158 A Systematic Review of Sexual Consent Education Research

Presenter: Nikki Williams
Mentor: Spencer Olmstead, Ph.D.

#159 Redesigning the Outdoor Water Fountain Infrastructure on UTK's Campus to make water access more equitable.

Presenters: Max Workman, Reese Taylor, Patsy Donahue
Mentor: Yolanda Kirkpatrick

#160 Effects of a 17,18-EEQ stable analog on murine brown adipocyte differentiation

Presenter: Haoying Wu
Mentor: Ling Zhao

College of Nursing

#161 Are you healthy or not? Trends in health practices amongst those with a difference in their health perception and general health status

Presenters: Saahit Adabala, Colten Carver
Mentor: Dr. Patricia Roberson

#162 Effects of Increased Companionship on Decreasing Loneliness and Depression in the Elderly Population

Presenters: Karlee Anderson, Crimson Sanders
Mentor: Gail A. Griffith, MSN, RN, CHSE

#163 The effects of age, gender, race, and socioeconomic status on Covid-19 vaccine hesitancy in adults in the United States: A review of the literature

Presenter: Noah Anderson
Mentor: Dr. Kojima

#164 Girl Scouts of the Southern Appalachians Engagement through COVID-19

Presenters: Abigail Baker, Ellie Williams, Kaitlyn Weeden
Mentor: Cindi Adams

#165 Effect of Diet Modifications on ADHD Behaviors in Children and Adolescents

Presenters: Annalee Baldwin, Chloe Siscoe, Jaiden Kraft, Abigail Taylor
Mentor: Katherine Morgan

#166 The Effects of Consistent Exercise on the Mental Health of Adolescents

Presenters: Laurel Barrentine, Lauren Irvine
Mentor: Frank Thomasson

EURēCA 2022

#167 Maternal Prenatal Acetaminophen Use and Risk for ADHD in Children

Presenters: Bailee Bentley, Shelby Turek, Lizzie Pereira, Shelby Stevens
Mentor: Amy Alspaugh

#168 The Effects of Hepatitis C Education on the Health Literacy and Maintenance Levels of Knox County Harm Reduction Participants

Presenter: Vanessa Betancourt
Mentor: Maria Hurt

#170 The Effects of Caffeine on Adolescents with Depressive Symptoms

Presenters: Sydney Birchfield, Julia Horras, Sophia Clark, Sara Leese
Mentor: Cristina Barroso

#172 Effect of Patient Play Board Use for Two Months on ED Volunteer Play Interventions in Behavioral Health Patients at East Tennessee Children's Hospital

Presenters: Mary Bosson, Sarah Hodges
Mentor: Melanie Mixon

#173 Increasing Career Planning Confidence in Low-Income School-Aged Kids

Presenters: Allie Brown, Haley Benson
Mentor: Deonna Anderson-Washington, MSN-Ed, RN

#174 The Impact of Mental Health Screenings in Primary Care Settings on Adolescent Suicide Rates

Presenters: Isabella Brown, Emma Joseph, Rebecca Fowver, Sydney Born
Mentor: Cristina Barroso

#175 The Effect of Exercise on Cognitive Function in Adults with Mild Cognitive Impairment or Dementia: A Literature Review

Presenters: Claire Phillips, Sarah Bryant, Hannah Kirby, Grace Gardener
Mentor: Dr. Dominique Bulgin

#176 Effects of Health Disparities on Mental Health in School Aged Children

Presenter: Vada Butler
Mentor: Kathleen Thompson

#177 Strategies for the College-aged Population to Reduce Risk Factors of Alzheimer's disease

Presenter: Krista Cameron
Mentor: Kathleen Thompson PhD, RN

#178 Sexual Assault Education

Presenters: Alexis Campbell, Phoebe Grossman
Mentor: Sara Borges

#179 Effects of Art Therapy on Anxiety Levels of Children

Presenter: Kaitlyn Carmichael
Mentor: Melanie Mixon

#180 Evaluating the Positive Effects of Animal Assisted Therapy on Symptom Management in Children Diagnosed with Cancer

Presenters: Abby Read, Amelia Cassidy, Anna Lynne Brandon, Kieran Elliott
Mentor: Dr. Dominique Bulgin

#181 The Impact that Mentoring has on School Attendance for Children Ages 4-17 Years Old in the Amachi Program

Presenters: Madison Cavalli, Shelby Moore
Mentor: Frank Thomasson

#182 Increase the Awareness of Resources for Food Insecure Students

Presenters: Mackenzie Cavnar, Trang Nguyen
Mentor: Maria Hurt, DNP, MSN-Ed. FNP-C

#183 Cognitive Behavioral Therapy Interventions and the Increase in Mental Health among Adolescent LGBTQ+ Individuals: A Literature Review

Presenters: Seri Chang, Leanna Sanders, Payton Fielder, Nolan Pearson
Mentor: Amy Alspaugh

#184 Self-Testing as an Evidence Based Option to Increase Access to STI Testing for Men Who Have Sex with Men - A Review of the Literature

Presenters: Zoe Childs, Kelsey Conboy, Sophie Morrow, Jane Hughes, Madison Houston
Mentor: Amy Alspaugh, PhD, CNM

EURēCA 2022

#185 Is there a correlation between socioeconomic factors and and pain levels in rural Appalachia?

Presenters: Megha Chitturi, Carter Satterfield
Mentor: Patricia N.E. Roberson PhD

#186 Assessing the Effects of a Vaccine Information Sheet on COVID-19 Vaccine Hesitancy at Cherokee Health Systems in East Tennessee's Rural Primary Care

Presenters: Linus Cho, Emily Dermis, Lauren Caradine, Macy Feldman, Katelyn McBride, Ana Bridgeman, Tiya Ruffin, Gavin Blakely
Mentor: Professor Chris Brown

#187 The Effects of Hand Washing Education in Elementary Students in Decreasing Illness

Presenter: Yoo Jin Cho
Mentor: DeOnna Anderson-Washington, MSN-Ed, RN

#188 Effect of Social Media Outreach on Health Literacy of Knox County Residents

Presenter: Yeonjeong Choi
Mentor: Cindi Adams MSN, PMHNP-BC

#189 The effects of social media on increasing awareness for nonprofit organizations

Presenters: Jaclyn Clark, Josie Parsons
Mentor: Amanda Harper, DNP, RN, CPNP

#190 The effects of social media breaks on adolescent's mental health

Presenters: Julia Clark, Lauren Hennigar
Mentor: Marcia McAllister

#192 The Effects of Daily Exercise on Self-Esteem in Students

Presenters: Carson Clinard Grisham, Holly Del Vecchio
Mentor: Travis Rhoten

#193 The Socio-Economic Relationship to Oral Health: Addressing Oral Health at Thrive

Presenters: Lillie Cole, Merelove Myers, Anna Klepzig, Holly McComas
Mentor: Shelia Swift

#194 An Inconclusive Study of the Effects of the HPV-Vaccine (Gardasil®) on the Development of HPV-Related Cancers and the Efficacy of HPV Education on Vaccination Rates for Males Ages 11-18

Presenters: Amanda Colla, Natalie Bueche, Emily Woods, Stella Weinkauf
Mentor: Green-Laughlin

#195 The Relationship between Attending Social Activities at Maud Booth and the Incidence of Depression Among Maud Booth Residents

Presenter: Rachel Colon
Mentor: April Bryant

#196 Conducting a Needs Assessment and Implementing an Educational Intervention of UT Students and Staff on the American Red Cross

Presenters: Emily Considine, Alex Gerkin
Mentor: Dr. Kathleen Thompson

#197 Prophylactic Medications in Reducing Sexually-Transmitted Infections in Sexual Assault Victims

Presenters: Chelsea Consolini, Taylor Carter
Mentor: Edelyn Bishop

#198 Effects of Community Building Activities on the Self-Reported Depression and Mental Health of the Residents at the YWCA in Knoxville

Presenters: Marilee Cowden, Sarah Regener
Mentor: Gail Griffith

#199 The Effects of Animal Assisted Therapy on the Psychological Health of Older Adults with Dementia - A review of the literature

Presenter: Natasha Coy
Mentor: Dominique Bulgin

#200 The Relationship Between Guided Reading Interventions and Elementary Students' Reading Levels

Presenter: Casey Crownover
Mentor: Vikki Meloy

EURēCA 2022

#201 The Effects of a Physical Health Class on Health Literacy in the Homeless Population

Presenter: Russell Cunningham
Mentor: Dr. Freddie Kojima

#202 Use of Behavioral Chart to Improve Behavior in Preschool Age Children

Presenter: Bryce Cutting
Mentor: Kimberly Brown DNP, MSN-Ed

#203 The Relationship Between Vaccine Hesitancy Amongst Parents and the Risk of Increased Childhood Illness: A Literature Review

Presenters: Karsen Daniel, Maggie Martin, Nicole Cohen, Isabela Gebhardt
Mentor: Cristina Barroso

#205 The Impact of In-School Prevention Programs on Suicidal Behavior in Teens

Presenters: Owen Dittes, Samantha Burress, Jamison Gould, Honor Worthy
Mentor: Dominique Bulgin

#206 The Epidemic Lost in the Pandemic: Effects of Community Education on Opioid Epidemic Awareness and Prevention Involvement in Knoxville

Presenters: Jenna Doak, Michael Darby
Mentor: Edelyn Bishop

#207 Academic Service Learning Project for the College of Nursing

Presenters: Madolyn Donehoo, Emma Clifton
Mentor: Marcia McAllister

#208 The Effect of a Balanced Macronutrient Intake on the Mental Health Status of Children and Adolescents: A Review of the Literature.

Presenters: Savannah Ashley Eaton, Jessie Bonnell, Abigail Mullinix, Katherine Cimino
Mentor: Cristina Barroso

#209 Preventing Adolescent Pregnancy and Enhancing Adolescent Sexual Health

Presenters: Rachel McAllister, Alicia D'Amore, Rebecca Elias, Katie Meyer
Mentor: Knar Sagherian, PhD, RN

#210 Investigation of Parental Influence on Adolescent Vaccination Rates in the United States: A Literature Review

Presenters: Josephine Ellis, Victoria Wilson, Lily Setter, Brenna Etherton
Mentor: Cristina Barroso

#211 The Effects of Tablets and Media on Helping With Isolation and Depression Levels in the Elderly During the Covid Pandemic

Presenter: Jazmine Ervin
Mentor: Gail Griffith

#212 Do Healthy Diets Play a Role in Decreasing Symptoms of Depression in College Students?

Presenters: Hannah Esguerra, Lurnea Marks, Kaitlyn Biggs, Daniella Tate
Mentor: Dr.Katherine Morgan

#213 How can the implementation of sex education in rural communities be used to decrease unplanned pregnancy among teenagers?

Presenters: Jaylah Espy, Hailey Benner, Gabriella Huzyk, Jamie Jordahl
Mentor: Freddie Kojima

#214 How Animal Therapy Affects Psychological Health in Patients with Dementia in the United States

Presenters: Taylor Etheridge, Anna Dunham, Marina Morra, Alex Colburn
Mentor: Karen Carver

#215 The Effects of Clonidine on Outcomes in Patients with Neonatal Abstinence Syndrome

Presenter: Claire Flatt
Mentor: Jennifer Tourville, DNP

#216 The Increased Risk of Developing Metabolic Syndrome in Night Shift Nurses: A Review of the Literature

Presenters: Allison Flynn, Lindsey Dickman, Summer Nesto, Elizabeth Ellis
Mentor: Knar Sagherian

#217 The Effect of Online Learning on Increasing Understanding in The Dream Connection

Presenter: Juliana Foreman
Mentor: Amanda Harper

EURēCA 2022

#218 Improving Planning and Scheduling Strategies to Better Involve Interns Within Knoxville Fellowship of Christian Athletes

Presenter: Ashley Foster
Mentor: Travis Rhoten

#219 The Relationship Between Mentorship and Mental Health of Adolescents

Presenters: Melissa Freifelder, Elizabeth Roddy, Sarah Mccloud
Mentor: Frank Thomasson

#220 Effects of Delayed First Baths on Thermoregulation, Exclusive Breastfeeding Rates, and Glucose Stability in Newborns

Presenters: Victoria Furka, Marya Hubbard, Courtney Bailey, Morgan Amick
Mentor: Dr. Amy Alspaugh

#221 The Effects of a Brief Educational Poster on the Health Literacy of People 'Under the Bridge'

Presenter: Stacie Gaddis
Mentor: Maria Hurt, DNP, MSN-Edu, APRN, FNP-C

#222 The Role of Birth Plans in the American Perinatal Experience

Presenter: Juli Anna Gibson
Mentor: April Bryant, RN, MSN, APRN, FNP-C

#223 The Positive Effects of Delayed First Bath on Glycemic Control, Temperature Regulation, and Breastfeeding among Neonates

Presenters: Hannah Goralnick, Madison Crabtree, Jasmine Russell, Lucy Gilbert
Mentor: Dominique Bulgin

#224 Effect of Aerobic and Physical Exercise on Reducing Symptoms Associated with Cognitive Function in Adults with Mild Cognitive Impairment or Dementia

Presenters: Samuel Greeley, Joshua Porter, Steven LeBreux, Michael Smith
Mentor: Dylindia Green-Laughlin

#225 The Impact of the Implementation of a Nutrition Education Program on the Nutritional Knowledge and Preferences of Knoxville Inner City Kids Outreach Participants

Presenter: Madeline Grimes
Mentor: DeOnna Anderson-Washington

#226 The Positive Correlation of the COVID-19 Pandemic and Anxiety and Depression Amongst Adolescents Aged 12-18 Years Old

Presenters: Ann Ragan Grissom, Nealy Anderson, Sophie Hitchens, Sarah Johnson
Mentor: Dr. Crawford

#227 The Intersection of Metabolomics and Potential Biomarkers of Parkinson's Disease: A Review of Literature

Presenter: Katherine Havranek
Mentor: Katherine Morgan

#228 Effects of Blowing Bubbles on Fear and Pain from Pediatric Outpatient Injections

Presenter: Lindsey Hedrick
Mentors: Dr. Robert Cornette, Dr. Kathleen Thompson

#229 GC-MS Analysis of Firefighter Urine to Identify Potential Carcinogenic Compounds

Presenter: Evan Heldt
Mentor: Ji Youn Yoo

#230 Socioeconomic Impact to Perceived Social Support in Breast Cancer Patients Residing in Rural versus Urban Communities

Presenter: Amelia Helms
Mentor: Dr. Patricia Roberson

#231 Examining Child-Life Volunteer Use of Communication Boards with Spanish-Speaking Patients

Presenters: Hallie Henegar, Katie Pendergast
Mentor: Melanie Mixon

#232 ASL Project : Effectiveness of reading logs on improving reading time and quality over a month

Presenter: Logan Hinch
Mentor: Sara Borges

EURēCA 2022

#233 Increasing Incidence of Depression in Adolescents Due to COVID-19 Pandemic Crisis and the Impact on Academic Performance: A Literature Review

Presenters: Devin Hinson, Anber Akmanligil, Sydney Stapleton, Sara Hunley
Mentor: Dr. Kathryn Crawford

#234 The Use of Educational Handouts to Increase Parental Knowledge of Infant Nutrition Between Ages 6-12 Months

Presenters: Caitlyn Hintz, Nicole Wigent
Mentor: Melissa Hessoek

#235 The Effects of an Educational COVID-19 Protection Program on the Implementation of Safety Measures amongst Primary Care Nurses

Presenter: Megan Hoffman
Mentor: Dr. Laurie Acred-Natelson

#236 The Effect of Animal Assisted Therapy on Decreasing Physiological Outcomes to Improve Pain and Stress Levels in Hospitalized Pediatric Patients: A Literature Review

Presenters: Alayna Holbert, Ashleigh Harrison, Shelby Campbell, Megan Lawless
Mentor: Amy Alspaugh

#238 The Effect of Reading on Students' Test Scores at Emerald Youth Foundation

Presenter: Sydney Horner
Mentor: Tammy Bullard

#239 The Effect of Hand Hygiene in children for Underserved Communities: A Literature Review

Presenter: Christopher Hough
Mentor: DeOnna Anderson-Washington MSN-Ed, RN

#240 The Application of Communication Platforms to Improve Communication and Organization in Businesses and Non-Profit Organizations

Presenters: Emma House, Maggie Piazza
Mentor: Amanda Harper, DNP, RN, CPNP

#241 The Effects of Art Therapy on Aggression Related Write Ups Among Children at Boys and Girls Club

Presenters: Amanda Howard, Catie Heilman
Mentor: Marcia McAllister

#242 Blood-Injection-Injury Phobia: A Study to Identify the Demographics of Adults with this Phobia

Presenter: Aliza Huff
Mentor: Dr. Shelia Swift

#243 The Impact of Patient Anxiety on Caregiver Anxiety in Breast Cancer Patients in Rural Appalachia

Presenters: Merrell Irion, Emmanuel Quezada
Mentor: Dr. Patricia N.E. Roberson

#244 How Animal Assisted Therapy Affects Psychological Health in Older Adults with Dementia: A Review of the Literature

Presenters: Taylor Irwin, Faith Whitt, Ellie Streeeter, Charlsey Sullivan
Mentor: Kathryn Crawford

#245 The Effects of Communication on Families with Children who Suffer from Life-threatening Disease

Presenter: Brooke Jackson
Mentor: Dr. Amanda Harper

#246 The Effects of Moral Reconation Theory (MRT) Therapy on Self-Esteem and Resilience in Incarcerated Sexual Assault Survivors

Presenter: Drew Janes
Mentors: Kathleen Thompson, Amanda Harper

#247 The Positive Effects of Reading with Students of the Joy Baker Program

Presenter: Jessica Jones
Mentor: n/a

#248 One-On-One Conversations About Coping Mechanisms and Their Effect on Mental Health: A Study on Children and Adolescents

Presenters: Christine Karklins, Rebekah Brandon
Mentor: Vikki Meloy

EURēCA 2022

#249 Access to Substance Abuse Treatment and Rates of Substance Abuse in Rural Communities Within the United States

Presenters: Eva Karnowski, Courtney Miller, Maren Stevens, Elly Stanga
Mentor: Freddie Kojima

#250 The Usefulness of a Quick Tips Profile Card in Healthcare Visits for Intellectually and Developmentally Disabled Patients Caregivers

Presenter: Sarah Keller
Mentor: Kathleen Thompson

#251 Administration of Probiotics and Neurodevelopment in Low-Birth-Weight Infants

Presenters: Lindsey Cummings, Megan Kizer, Haley Reed, Elizabeth Dowd
Mentor: Katherine Morgan

#253 Medication Management: Equipping Those Who Suffer From Homelessness

Presenter: Margaret Lavoie
Mentor: Freddie Kojima

#254 The Effects of COVID-19 Education on Vaccination Rates Among Pediatric Students

Presenters: Tina Le, Claire Hayes
Mentor: Susan Hebert

#255 The Increased Rate of Maternal Satisfaction for Women Who Were Free to Eat and Drink During Active Labor of Low-Risk Pregnancies

Presenters: Adrianna Leicht, Anna Taylor, Erica Weaver, Jamie Stauffer
Mentor: Amy Alspaugh

#256 The Effectiveness of New Methods of STI Screening Reducing Barriers to Care and Increasing Patient Accessibility Among Adolescent College Students

Presenters: Taylor Hosmer, Katherine Regan, Nikki Leishman, Kara Robinson
Mentor: Amy Alspaugh

#258 The Effects of an Urban Gardening Course on the Availability of Fresh Produce in a Food Desert

Presenter: Barklee Loflin
Mentor: Tammy Bullard

#259 Correlational Study Between Disordered Eating and Postpartum Depression Among Women Four-to-Eight Weeks Postpartum

Presenter: Mika Long
Mentor: Dr. Melissa Hessock

#260 The Effects of Education Interventions on the Use of Developmentally Appropriate Play by Daycare Teachers

Presenters: Emily Malott, Elizabeth Martin
Mentor: Dr. Melissa Hessock

#261 The Effect of Mental Health Screenings on the Incidence of Suicide in Middle School Aged Girls

Presenter: Taylor Mann
Mentor: Dr. Kathleen Thompson

#262 The Effect of Education on Recognizing HIV in Homeless Population at Knox Area Rescue Ministries

Presenters: Gabrielle McClarin, Abby Miller
Mentor: Dr. Kojima

#263 Improving Self-Efficacy in the Residents of Love Towers in Relation to Blood Pressure

Presenters: Margaret McConnell, Radha Patel, Brooke Paris, Kemar Ali
Mentor: Christina Brown

#264 How Coping Skills Developed in Nursing School Effect Burnout in the Transition to Practice

Presenter: Natalie Meade
Mentor: Kimberly Brown

#265 Can Art Decrease Loneliness in Children with Cancer?

Presenter: Heidi Middeke
Mentor: Amanda Harper

#266 Adolescents Diagnosed with Autism Spectrum Disorder and the Discrepancies Related to Access to Specialized Healthcare Services in Rural vs Urban Areas

Presenters: Savanah Miles, mary hart, britt klosterman, ryan stone, lefler mcmanus
Mentor: DeLyndia Green-Laughlin

EURēCA 2022

#267 Improving Communication within East Tennessee Children's Hospital Through Reduction of Language Barriers

Presenter: Margaret Miller
Mentor: Melanie Mixon BSN, RN

#268 Activity for Preschoolers During Nap Time to Reduce Behavioral Outbursts

Presenter: Sarah Morin
Mentor: Dr. Kimberly Brown

#269 Gaining Awareness for the Wesley House Food Pantry

Presenters: Jenna Mrkonich, Jessica McChesney, Annika O'Neill
Mentor: Dr. Casey Norris

#270 Effects of Systematic Improvements on Quality of Sleep in a Women's Homeless Shelter Dorm

Presenter: Annie Nelson
Mentor: Dr. Freddie Kojima

#271 Improving Infection Control Knowledge and Tracking Among Day-Care Teachers

Presenters: Ashlyn Nokes, Emma Seigmund
Mentor: Melissa Haddock

#272 Effects of Social Media on Volunteer Recruitment

Presenters: Madison Peret, Camille Phillipy
Mentor: Libby Burns

#273 Breaking Barriers to Long Acting Reversible Contraception with STI Education

Presenter: Haley Persch
Mentor: Eddie Petrie

#274 The Negative Effect Caregiving Can Have on Caregiver Quality of Life

Presenters: Kaylee Gray, Celine Phan
Mentor: Patricia Roberson

#275 The Relationship between Probiotic Use and Delayed Onset of the Neurodegenerative Disease, Alzheimer's, in Older Adults over 65

Presenters: Hannah Piepol, Catherine House, Mackenzie Cain, Natalie Handshy
Mentor: Katherine Morgan, PhD, FNP-BC

#276 Promoting Resilience in Pediatric Hematology/Oncology Patients and Their Families

Presenter: Ryleigh Rayburn
Mentor: Dr. Amanda Harper

#277 The Positive Effects of the HPV (Gardasil®) Vaccine on the Development of Throat Cancer Among Men

Presenters: Erin Remijan, Jared Henderson, Patrick Phillips, Karli Dallas
Mentor: Dr. Amy Alspaugh

#279 The Effect of Working Through the COVID-19 Pandemic on Nurses: A Literature Review

Presenters: Paige Rounsavall, Samantha Lawson, Kate Roberson, Erin Weiland
Mentor: Christina Barroso

#280 Improving Quality of Care of Pediatric Behavioral Health Patients by Implementation of Tabletop Activities

Presenters: Tavyn Santee, Mary-Katherine Kidney
Mentor: Melanie Mixon, PPCNP, MSN, RN

#281 Irregular Sleep Cycles and Development of Metabolic Syndrome in Night Shift Nurses: A Literature Review

Presenters: Gracie Satterfield, Alexandria Yarnell, Emily Holmes, Kylie McConnell
Mentor: Cristina Barroso

#282 Positive Effects of Mindfulness-Based Interventions on Levels of Occupational Stress in Hospital Nurses

Presenters: Bryanna Schroeter, Candace Reid, Thy Kim, Marina Ibrahim
Mentor: Dr. DeLyndia Green-Laughlin

#283 Barriers of Medication Assisted Treatment (MAT) for Pregnant Women with Opioid Use Disorder (OUD) in Rural Tennessee: Treatment Protocols and Training of Providers

Presenter: Rachel Schutte
Mentor: Jennifer Miller PhD, RN

#284 Self Esteem of Adolescents Attending High School Online: A Quality Improvement Project

Presenter: Amanda Shamp
Mentor: Frank Thomasson, Jr.

EURēCA 2022

#285 Productive Leisure Time Activities for Inner City Adolescents

Presenter: Chris Sheets
Mentor: Deonna Anderson
MSN-Ed, RN

#286 Study Tactics for Elementary-Aged Children in Single Parent Homes

Presenter: Cheyenne Simon
Mentor: Vivian Rookard

#287 The Effects of Hosting a Social Media Giveaway on Increasing Feminine Hygiene Collection for I Support the Girls-Knoxville

Presenters: Jillian Simpson, Dailey Davis, Elissa Adams, Mikayla Nalley
Mentor: Brooke Lakin

#288 Neuroprotective Care and Breastfeeding in Neonates: A Literature Review

Presenters: Caroline Sims, Casey Langsjoen, Emma Swingle, Olivia Gossard, Tori Reed
Mentor: Dr. Cristina Barroso

#289 The Effects Low Socioeconomic Status Has on Childhood Nutrition

Presenter: Lauren Skoog
Mentor: Vivian Rookard

#290 The Effects of Sex Education on the Rate of Unintended Pregnancies in Adolescent Females in Rural Communities: A Review of the Literature

Presenters: Elizabeth Smith, Paulina Hutchison, Vontae Sebastian, Bridgette Anderson
Mentor: Dr. Barroso

#291 The Effects of Prenatal Dietary Intake of Macronutrients on Fetal Birth Weight

Presenter: Lauren Song
Mentor: Kathleen Thompson

#292 Healthcare worker perceptions of treatment of drug withdrawal among pregnant women in jail in the South-Central Appalachia region: A qualitative pilot study

Presenter: Skylar Sopko
Mentor: Dr. Sadie Hutson

#293 The Effects of Social Interaction Interventions on Mental Health in Older Adults Who Experienced Isolation During the COVID-19 Pandemic

Presenters: Alyssa Steffy, Lillian Sackleh, Amy Dieu, Sydney Gregg
Mentor: April Bryant

#294 Induction of Labor Versus Expectant Management and Rates of Severe Maternal Morbidity

Presenters: Elise Strevell, Olivia Francis, Rebecca Seigmund, Hannah Hooper
Mentor: Amy Alspaugh

#295 Health Care Experiences of Older Adults and Their Family Caregivers During the COVID-19 Pandemic

Presenter: Audrey Summers
Mentor: Joel Anderson

#296 An Implementation of Chair-Yoga Exercise and the Impact on the Mental and Physical Health in Adults with Alzheimer's Disease

Presenter: Mary Swafford
Mentor: Libby Burns

#297 Differences Between College Males and Females' Coping Mechanisms in Relation to the COVID-19 Pandemic

Presenter: Margaret Tasket
Mentor: Dr. Allyson Neal

#298 Adjusting Material Format for Partnerships to Advance Nursing Practice and Education: The Precious Prints Project®

Presenters: Alexandra Taylor, Marissa Newman
Mentor: Lynne Miller, MSN, RN, CNE

#299 Joining Forces: A Quantitative Study on the Effect of Interdisciplinary Collaboration Among Business and Nursing Students

Presenter: Megan Tomasek
Mentor: Lynne Miller

#300 The Impact of Social Support on Mental Health Outcomes among Breast Cancer Patients

Presenters: Minh Tran, James Griffith
Mentors: Patricia Roberson, PhD, Jordan Tasman

EURēCA 2022

#301 The Positive Effects of Sex Education on Unintended Pregnancies in Schools in Rural Communities - A Literature Review

Presenters: Madelyn Turner, Sabrina Sowell, Hannah Cooke, Caroline Current
Mentor: Amy Alspaugh

#302 The Effect of Schoolwork Incentives and Education Programs on Inner-City kids

Presenter: Samantha Vawter
Mentor: Deonna Anderson-Washington

#303 The Positive Effect of Oral and/or Intravenous Intake During Labor on Physical and Emotional Outcomes of Birthing People

Presenters: Amia Walker, Kayla Steele, Tara Vincenc, Elea Sevrain
Mentor: Amy Alspaugh

#304 Pregnant Women with Asthma: Factors that Influence Their Decision to Continue or Discontinue Their Medications

Presenter: Emma Vysoky
Mentor: Dr. Tami Wyatt

#305 Metabolic Syndrome in Night Shift Nurses

Presenters: Amy Waitman, Jackson Lee, Hailey Houston, Rachel Yates
Mentor: Karen Carver

#306 ASL: Education and Incentivization of Proper Mask-wearing in Children Ages 5-14

Presenter: Lindsay Webb
Mentor: Vivian Rookard

#307 The Effectiveness of Animal Assisted Therapy on Decreasing Psychological Distress in Older Adults with Dementia

Presenters: Olivia Weggeman, Mikayla Walter, Matthew Waznis, Isabelle Way
Mentor: DeLyndia Green-Laughlin

#308 The Effect of a Reward System on Adolescent Attention Span

Presenter: Maiya Welch
Mentor: Deonna Washington-Anderson

#309 Management of Hypertension in an Aging Adult Population

Presenters: Morgan Wettengel, Sam Smith, Kaitlyn Reinhardt
Mentor: April Bryant

#310 The Effects of Cognitive Based Therapy (CBT) and Stress in Health Care Providers

Presenters: Chloe Windham, Sheridan Lennartz, Leslie Robison, Olivia Zimmerman
Mentor: Dominique Bulgin

#311 An Exploration into How Animal Assisted Therapy Has No Effect On Cognitive Functioning in Older Adults Aged 65+ With Dementia, in Comparison to Human Assisted Therapy

Presenters: Zechariah Wooten, Jordan Nabors, Siegfried Boehm
Mentor: Carrie Bailey

College of Social Work

#312 Descriptive Analysis of Causation for Recurring Support Requests from Social Assistance Recipients

Presenter: Jessie Baer
Mentor: Dr. William Nugent

#313 Comparing the Attendance Rates between Face-to-Face Therapy Sessions and Telehealth Therapy Sessions

Presenter: Olivia Dowling
Mentor: Dr. Nugent

#314 Equity in the Number of Student Conduct Sanctions for Academic Misconduct Given to Students as it Relates to Race and Sex in Higher Education

Presenter: Paola Gomez
Mentor: Dr. William Nugent

#315 Demographic Study of Individuals Experiencing Homelessness

Presenter: Anna Higgins
Mentor: William Nugent

EURēCA 2022

#316 Relationship Between Agency Resources and Client HIV Viral Load

Presenter: Arianna Hill

Mentor: Dr. Bill Nugent

#317 An Analysis of a Local Mentoring Program Per Match Success

Presenter: Summer Hunley

Mentor: Dr. William Nugent

#318 What is the Relationship between Pre-Trial Diversion programs and Rates of Recidivism?

Presenter: Maggie Kelly

Mentor: William Nugent

#319 A Descriptive Analysis of Demographics of Individuals Experiencing Substance Use & Entering Programs for Service

Presenter: Amari Ratliff

Mentor: Dr. Bill Nugent

#320 A Study of the Relationship Between Adolescent Bullying and Suicide Consideration, Planning, and Attempt

Presenter: Sophie Richards

Mentor: Dr. Bill Nugent

#321 A Linear Regression Analysis of Re-Hospitalization Rates in Relation to Psychosocial Therapy Attendance

Presenter: Emma Richey

Mentor: William Nugent

Haslam College of Business

#322 Harlan County, Kentucky in a Post-Coal America: A Case Study

Presenter: Karli Ailshie

Mentor: Sara Easler

#323 The world's on fire! Won't you be my neighbor? Comparative Analysis of Reddit Community Growth and Sentiment Before and During the Covid-19 Pandemic

Presenter: Kayla Beard

Mentor: Brian Stevens

#324 The 2021 Texas Winter Outage: An Equity and Energy Analysis of an Independent Grid

Presenter: Ameera Bhatti

Mentor: Dr. Scott Holladay

#325 Does Corporate ESG Reporting Reflect Internal Feelings?

Presenter: Nicholas Brodeur

Mentor: Dr. Wenjun Zhou

#326 The Implications of Corporate Social Responsibility within the Supply Chain: Does it Really Help the Bottom Line?

Presenter: Lauren Brown

Mentor: Dr. Sining Song

#327 The Effect of the Local Economy on Opioid Overdoses: Evidence from the States

Presenter: Helen Chiasson

Mentor: Larry Fauver

#328 How Does Governmental and State Investments in Mental Health Affect the National and State Level of Homelessness?

Presenter: Mikahla Clemens

Mentor: Dr. Jonathan Ring

#329 How Negative is Instagram? A Study of Body Positivity Through Instagram

Presenter: Claire Donelan

Mentor: Melinda Micheletto

#330 Corporate Sustainability: The Effectiveness of ESG Standards in the Measuring of Corporate Environmentalism

Presenter: Joseph Geibig

Mentor: Wendy Tate

#331 SPACs: What Elements Indicate Success? A Hard Look at Wall Street's Hottest Trend

Presenter: Reid Grafton

Mentor: Roy Schmardebeck

#332 Exploring How Small Businesses are Utilizing Digital Marketing to Promote Their Products and Services

Presenter: Alyssa Grissom

Mentor: Jules Morris

#333 Optimizing a Transportation Network by Minimizing Partial Pallet Orders

Presenter: Ellysa Groh

Mentor: Sean Willems

EURēCA 2022

#334 The NBA Home Court Advantage: Betting Odds as a Measure

Presenter: Will Gross
Mentor: Dr. James Chyz

#335 Dynamic Pricing with Sequence Modeling Based Deep Reinforcement Learning

Presenter: Jack Hutchins
Mentor: Michel Ballings

#336 Public Accounting Firm Statement Analysis: A Predictive Model to Identify Semantic Criteria to Enhance Firm Discussion Addressing Racial Injustice

Presenter: Courtney Lam
Mentor: Dr. Lauren Cunningham

#337 A Look At The Drug Supply Chain Security Act And Its Affect On Capital Expenditures

Presenter: Emma Lampson
Mentor: Phillip Daves

#338 How World-Wide Travel Turns into First-Year Paycheck Premiums upon Graduation

Presenter: Macy McCullough
Mentor: Brian Stevens

#339 How a Regional Fast-food Chain Has Managed Shortages and Risk during a Global Supply Crisis

Presenter: Andrew Miller
Mentor: Dr. Lance Saunders

#340 Factors which Influence Perceptions of Leadership

Presenter: Brent Phillips
Mentor: Dr. Jackie Jacobs

#341 Carpet Company X: A Communication Structure Analysis Case Study of New Product CGC

Presenter: Elise Presberg
Mentors: Wendy Tate, Jennifer Rittenhouse

#342 The Value of Analytics at Optimizing Operational Performance at a Local Free Clinic

Presenter: Varun Rangnekar
Mentor: Bogdan Bichescu

#343 Supply Chain Leadership: Exploring the Effect of COO Personality on Supply Chain Performance

Presenter: Deanna Sickels
Mentor: Dr. Jason Strickling

#344 Implications of Producing to Forecast-Driven Scheduling vs Demand-Driven Scheduling

Presenter: Harshil Singapuri
Mentor: Dr. Kenneth Gilbert

#345 Stress and Coping with COVID-19: Working Adults

Presenter: Abigail Smith
Mentor: Dr. Timothy Munyon

#346 Who Would Be Affected by a \$15 Minimum Wage in Tennessee?

Presenter: Marshall Summar
Mentor: Dr. Marianne Wanamaker

#347 Managing Consumer-Packaged Goods Supply Chain Disruptions during COVID-19

Presenter: Logan Tennell
Mentor: Lance Saunders

#348 How To Go Viral: A Descriptive Model of The TikTok Algorithm

Presenter: Max Thompson
Mentor: Dr. Sophie Xiao

#349 Diagnostic Decision Support Software for Colorectal Cancer Diagnosis Using Deep Learning Methods

Presenter: Nathalie-Sofia Tomov
Mentor: Hamparsum Bozdogan

#350 Women of Color in Accounting: Analyzing the Career Progression of Women of Color in Leading Accounting Roles

Presenter: Jada Worries
Mentor: Jules Morris

#351 Using AutoML to Conduct Propensity Score Matching

Presenter: Mark Zimmerman
Mentor: Dr. Wenjun Zhou

Herbert College of Agriculture

#65 Agricultural Land Use Affects the Body Size of Some Bees

Presenter: Maggie Clark
Mentor: Laura Russo

#352 Novel Ultraviolet Light Technologies for the Inactivation of Murine Hepatitis Virus, a SARS-CoV-2 Surrogate

Presenter: Alexia Angelos
Mentor: Dr. Doris D'Souza

#353 Anatomical Atlas of the Ovine Amygdala

Presenter: Cydney Babione
Mentor: Dr. Brian Whitlock

EURēCA 2022

#354 Creating a Backyard Buzz: Evaluating the Effectiveness of Using a Video Infographic To Increase Knowledge About a Local Mosquito-borne Disease

Presenter: Caroline Barnes
Mentor: Dr. Rebecca Trout Fryxell

#355 Soil Chemistry and Vegetation: The Relationship Between Soil Quality and Native Species

Presenter: Sophie Carter
Mentor: Jennifer Franklin

#356 Chronic Wasting Disease Prion Detection: Use of Gold Nanoparticles and Modified Nucleic Acids for Improved Sensitivity of an Immunoassay

Presenter: Haley Channell
Mentor: Shigetoshi Eda

#357 The Effects of Climate Change on Immature Sea Turtles and Associated Bacteria

Presenter: Megan Cox
Mentor: Dr. Deb Miller

#358 Preparation of Cheese-like Products Using Hempseed Hearts Extract

Presenter: Peyton Crates
Mentor: Vermont P Dia

#359 Is germinating in the dark beneficial? The influence of light intensity and days without light on butterhead lettuce and basil

Presenter: Dustin Del Moro
Mentor: Dr. Kellie J. Walters

#360 Evaluation of Protective Efficacy of Novel Staphylococcal Mastitis Vaccines in Cattle

Presenter: Sarah Desai
Mentor: Oudessa Kerro Dego

#361 Pharmacokinetics of Pantoprazole and Pantoprazole Sulfone in Goats After Intravenous Administration: A Preliminary Report

Presenters: Bryanna Fayne, Olivia Escher, Windy Soto-Gonzalez
Mentor: Joseph Smith

#362 Juglone inhibits Beauveria bassiana and Cordyceps fumosorosea Growth in vitro

Presenters: Autumn Finnell, Spencer Givens
Mentor: Denita Hadziabdic-Guerry

#363 Chronic Wasting disease prion detection: Optimizing electrochemical conditions for a higher sensitivity

Presenter: Veronica Hafner
Mentors: Shigetoshi Eda, Jay Ramos

#364 The Effect of Planting Density on Green and Purple Basil Yield and Quality

Presenter: William Hagen
Mentor: Dr. Kellie Walters

#365 The presence of transcripts for estrogen receptor 1, estrogen receptor 2, and G-protein coupled estrogen receptor 1 in oocytes and cumulus cells of cattle

Presenter: Meredith Hinson
Mentor: Sarah Moorey

#366 'Breeding Without Breeding' in Black Walnut (Juglans nigra)

Presenter: Justin Kosiewska
Mentor: Denita Hadziabdic

#367 Strategies and Techniques Used to Monitor Candidate Insect Vectors and Detect Tree Disease Pathogens in TN Forests

Presenter: Gaige Lariscy
Mentor: William E. Klingeman

#368 Bridging the Digital Divide: Community Programs Targeting Broadband Access and Adoption in Rural Tennessee

Presenter: Makayla Lerner
Mentor: Sreedhar Upendram

#369 Effect of the early ruminant embryo on maternal anterior pituitary gene expression

Presenters: Adella Lonas, Malone Young
Mentor: Daniel Mathew

#370 Effects of Anabasin on Plant Biostimulants and Pathogens

Presenter: Alana Messier
Mentor: Dr. Kimberly Gwinn

EURēCA 2022

#371 A novel method for point-of-care pathogen detection: development of a DNA-based molecular probe for double stranded DNA sensing

Presenter: Bailey Morgan
Mentor: Shigetoshi Eda

#372 Impact of Alkaline Treatment on Split Pigeon Pea Protein

Presenters: Avery Ollis, Laila Martin
Mentor: Dr. Vermont Dia

#374 Characterization of Fungal Communities Living Within the Leaves of Whorled Sunflowers

Presenter: Luis Perez
Mentor: Denita Hadziabdic

#375 Plasma Metabolome Profiles to Predict Average Daily Gain in Weaned Heifers

Presenter: Samantha Roberts
Mentor: Dr. Sarah Moorey

#376 Alcalase and bromelain hydrolysis improved the bioactivity of hempseed protein isolate

Presenter: Joshua Saad
Mentor: Vermont Dia

#377 Viral Recoverability in Soil Environment

Presenter: Ann Smith
Mentor: Mark Radosevich

#378 Cytocompatibility of a High Graphene Content polymer-based ink for Bone Regeneration

Presenter: Kaitlin Smith
Mentor: Dr. Madhu Dhar

#380 Conserving the imperiled Atlantic White-cedar: a population genetics perspective

Presenter: Zane Smith
Mentors: Margaret Staton, Denita Hadziabdic

#381 Length of Proestrus and Concentrations of Estradiol and Progesterone in Serum and Follicular Fluid of Cows Undergoing Synchronization of Estrus

Presenter: Allyson Stokes
Mentor: Sarah E. Moorey

#382 Increasing Sustainability of Pest Management in Apple Production by Coupling Reduced-Rate Applications with Variable-Rate Spray Technology

Presenter: Hannah Sutt
Mentor: Amy Fulcher

#383 Soybean Agroinfiltration

Presenter: Bryce Trull
Mentor: C. Neal Stewart, Jr.

#384 Testing the Efficacy of Plant-Derived Fungicides at Inactivating Batrachochytrium salamandrivorans in Pond Water

Presenters: Merrie Urban, Carmen Merolle
Mentor: Dr. Matthew Gray

#385 Quillaja saponaria bark extract prevents Salmonella enterica serovar Typhimurium Sa154 attachment on Vero Cells

Presenter: Halia Walrond
Mentor: Doris D'Souza

#386 Edge Effects: Shining a Light on Rodent Visitations to Black Bear Scat in Differently Managed Forests in the Southern Appalachians

Presenter: Holly Whited
Mentor: Dr. Charles Kwit

Tickle College of Engineering

#387 Ring Amplifier Frequency Response Simulations for Technology Scaling

Presenter: Samuel Aba
Mentor: Dr. Benjamin Blalock

#388 Atomic-Scale Structure of Yttria-Stabilized Zirconia

Presenter: Cade Abbott
Mentor: Maik Lang

#389 Reverse Engineering of a Bioreactor for Cultured Meat Research

Presenters: Patricia Abernathy, Sean Moran, Keely Sage
Mentor: Dr. Jiajia Chen

#390 Camera Based System for Noninvasive Monitoring in the NICU

Presenters: Samantha Bell, Jordan Grant, Michael Palmaccio, Gabrielle McClarin
Mentors: Dr. Xiaopeng Zhao, Dr. Tami Wyatt

#391 Microplastics Methodology: A Study of Second Creek

Presenter: Claudia Bible
Mentor: Jon Hathaway

EURēCA 2022

#392 High Throughput Enzyme Screening for Ester Quantification

Presenter: Nathaniel Blalock
Mentor: Dr. Cong Trinh

#394 Bridging the STEM Gender Gap through Women-focused Outreach

Presenter: Isabel Boyd
Mentor: Jalonda Thompson

#395 The effect of composition on the thermodynamics and properties of deep eutectic solvents

Presenter: William Brackett
Mentor: Joshua Sangoro

#397 Investigation of Preferential CO₂ Binding and Lignin-derived Carbon Quantum Dots Through Molecular Dynamics Simulations

Presenter: Michael Broud
Mentor: David Keffer

#398 3D Printing of Autonomous Self-Healing Elastomers

Presenter: Emily Buckner
Mentor: Dr. Rigoberto Advincula

#399 The unexpected effect of ligand exchange on the internal ordering of perovskite nanocrystals

Presenter: Alexandria Carter
Mentor: Katharine Page

#400 Establishing Crystal Structure in Dissolved Organic Molecules Through Low Temperatures

Presenter: Jakob Cielo
Mentor: Dr. Bin Hu

#401 Influence of Advancing Operating Speed on Milling-Induced Phase Transformation in Ho₂O₃ and Yb₂O₃ Sesquioxides

Presenter: Casey Corbridge
Mentor: Dr. Lang

#402 Al-Ce Alloys for Riverine Turbines

Presenters: Emilee Counce, John Rayle, Michelangelo Hooghkirk, Jacob Morton
Mentor: n/a

#403 Vacuum Time Dependence on Uniform Dispersion

Presenter: Sherrice Dale
Mentor: Dr. Bin Hu

#404 Metal Coating as Electrodes in High Purity Germanium Gamma Radiation Detectors n Detectors

Presenters: Mollie Daniell, Eli Christoph, David Crigger, Mohamed Shoieb, Josh Moorey
Mentor: Dustin Gilbert

#405 Uniaxial Manufacturing of Fully Ceramic Microencapsulated (FCM[®]) Fuel

Presenter: Ethan Deters
Mentor: Dr. Caen Ang

#406 3D Printing of Graphene Oxide Nanocomposites for Biocompatible Devices via Digital Light Processing

Presenter: Justin Edaugal
Mentor: Rigoberto Advincula

#407 Effect of laser power on melt pool characteristics and fluid flow during laser line-melting on a Ti-6Al-4V alloy: An in-situ dynamic synchrotron x-ray radiography study

Presenter: Garrett Fields
Mentor: Hahn Choo

#408 Crystal Growth and Characterization of the Physical and Scintillation Properties of CsZn₂Cl₅

Presenter: Christopher Fritz
Mentor: Mariya Zhuravleva

#409 Autonomizing Static Chamber-Based Soil Trace Gas Sampling

Presenters: Isaac Fugate, Sean Moran
Mentor: Dr. Daniel Yoder

#410 Adhesive Characterization for Automotive Applications

Presenters: Jacob Furst, Jacob Clark, Tonia Helmboldt, Mack Bethell
Mentor: Dr. David Harper

#411 Design of Engineered Media Amendment Testing Process

Presenters: Madeline Ginsberg, Ella Knight, Jaimie Armitage, Bryce Miller
Mentors: Andrea Ludwig, Forbes Walker

#412 Measurement of Thrombectomy Device Removal Forces in Experimental Models of Acute Ischemic Stroke

Presenter: Eleni Golloshi
Mentor: Bryan Good

EURēCA 2022

#413 Assessment of Atomic Ordering in Alloys

Presenter: Alexander Greenhalgh

Mentor: David Keffer

#414 Current Practices and Potential Rider Benefits of Fare Capping Policies in the U.S.A.

Presenter: Ashley Hightower
Mentor: Candace Brakewood

#415 Characterization of Al-Ce Alloys via Atomic Force Microscopy

Presenters: Gillian Holcomb, Alec Devaney, Joshua Safin, Noah Smith

Mentor: Dr. Mahshid Ahmadi

#416 An Analysis of Applying LSTM Neural Networks to Predict Future Watershed Reservoir Depth

Presenter: Jordan Huff

Mentor: Dr. Anahita Khojandi

#417 Development of an in Vitro Test Bed for the Optimization of Drug Diffusion in Pediatric Solid Tumors

Presenter: Rachel Ivy

Mentor: Dr. Elizebeth Barker

#418 Evaluation of different ion-exchange membranes for aqueous organic redox flow battery

Presenter: Jake Johnson

Mentor: Gabriel Goenaga

#419 Evaluation of Forces Required by a Stent Retriever to Remove Experimental Models of Acute Ischemic Stroke

Presenter: Caitlyn Kicza

Mentor: Dr. Bryan Good

#420 Solid State Synthesis and Doping of $YCa_4O(BO_3)_3$

Presenter: Marissa Knofczynski

Mentor: Charles Melcher

#421 Developing FRED: Friendly Robot to Ease Dementia with Care Ethics

Presenter: Kinley Koontz

Mentor: Xiaopeng Zhao

#423 Experimental Model of a Strongback System

Presenter: Paxton Lifsey

Mentor: Mark D. Denavit

#424 Phase formation of High-Entropy Rare-Earth Monoclinic Aluminates

Presenter: Madeline Loveday

Mentor: Dr. Mariya Zhuravleva

#425 Prototyping a Variable Inertance Device

Presenter: Carter Manson

Mentor: Dr. Nicholas Wierschem

#426 Single-size and cluster dynamics modeling of intra-granular fission gas bubbles in UO_2

Presenter: Nicholas Militello

Mentor: Dr. Brian Wirth

#427 Optimizing Processing Parameters of 316L Stainless Steel Bellows

Presenters: Colin Moore, Mary Hagemeyer, Sarah Lantzy, Ryan Maples

Mentor: Eric Lass

#428 Optimal Double-Vacuum Preservative Treatment for Cross-Laminated Timber Panels

Presenter: Alex Moore

Mentor: Mark Denavit

#429 Neutronics Modeling for a Two-Fluid Molten Salt iso-Breeder Reactor Operating on the Thorium Fuel Cycle

Presenter: C. Erika Moss

Mentor: Dr. Ondrej Chvala

#430 3D Printing of Polyelectrolyte Materials via Direct Ink Writing

Presenters: Anh Nguyen, Alicja Zeligowska

Mentor: Rigoberto Advincula

#431 Soft poly-ethylene-glycol (PEG) micelles and lipid nanoparticles (LNPs) resolve autophagy and reduce pro-inflammatory cytokine secretion in RAW264.7 mouse macrophages

Presenter: Nicole Nguyen

Mentor: Paul Dalhaimer

#432 Structural stability of $REE-PO_4$ ($REE=Sm,Tb$) under swift heavy ion irradiation

Presenter: Cale Overstreet

Mentor: Maik Lang

#433 3D Printing of Epoxy-Silica Corrosion Resistant Coatings

Presenter: Taegyung Park

Mentor: Dr. Rigoberto Advincula

#434 Floating Treatment Wetland Anchor System

Presenters: Houston Phillips, Brea Sorrells

Mentor: Dr. Daniel Yoder

EURēCA 2022

#435 Microstructural and Microhardness Evolution in Similar and Dissimilar Aluminum 2219 and 2195 Self-Reacting Friction Stir Welds

Presenter: Dov Polsky
Mentor: Claudia Rawn

#436 Machine Learning for Bioinformatics

Presenter: Owen Queen
Mentor: Scott Emrich

#437 Measuring Pre-Service, K-12 Teachers' Self-Efficacy in Teaching Engineering and Their Perceptions of Engineering as a Career

Presenter: Neel Reeves
Mentors: Dr. Courtney Faber, Dr. Betsy Chesnutt

#438 Flow Characteristics of Fast Molten Salt Reactors (FC-FMSR)

Presenter: Harrison Reisinger
Mentor: Dr. Ondrej Chvala

#439 3-D Printed PLA: Making a commonly brittle polymer elastic and ductile via annealment

Presenter: Salvador Rohan
Mentor: Dr. Rigoberto Advincula

#440 Passive Structural Control Achieved with a Mass Lever Inerter

Presenter: Jonathan Shell
Mentor: Dr. Nicholas Wierschem

#441 Hysteretic Rectification Utilizing Insulator to Metal Transition Materials

Presenter: Dawson Smith
Mentor: Ahmedullah Aziz

#441 Hysteretic Rectification Utilizing Insulator to Metal Transition Materials

Presenter: Dawson Smith
Mentor: Dr. Ahmedullah Aziz

#442 Investigation into the Unloading Response of Porous Materials

Presenter: Noah Smith
Mentor: Andrew Wereszczak

#443 Bioprinting osmotically actuated tissue-like materials

Presenter: McKayla Torbett
Mentor: Andy Sarles

#444 Restoration of Musical Organs: Analysis of Rubber Cloth and Other Historical Materials

Presenters: Matthew Valderrama, Mackenzie Camp, Christopher Webb, Charlotte Buchanan
Mentor: Dr. David Keffer

#445 Diamond-like Carbon Thin Films for Anti-fog Lens Coatings in Laparoscopy

Presenter: Daniel Woods
Mentor: Jacqueline Johnson

#446 A high-speed synchrotron x-ray radiography study on the effect of dwell time on melt-pool dynamics during the laser melting and solidification processes

Presenter: Raymond Wysmierski
Mentor: Hahn Choo

Research presented at the 26th Annual Exhibition of Research and Creative Achievement benefitted, or was conducted in conjunction with the following organizations:

A Step Ahead	KARM	Siemens Medical
Alzheimer's Tennessee-Howard Circle of Friends	Knox County Health Department	Texas Christian University
Amachi Knoxville	Knoxville Area Rescue Ministries (KARM)	The Precious Prints Project
American Conifer Society	Knoxville Dream Center	Third Creek Initiative
American Red Cross	Knoxville Inner City Kids Outreach (KICKO)	Thrive
AMETEK, Inc.	Knoxville Leadership Foundation	Transit-Serving Communities Optimally, Responsively, and Efficiently Center (T-SCORE)
Boys and Girls Club of America	Knoxville Young Life	U.S. National Science Foundation
Breakthrough Electrolytes for Energy Storage (BEES), an Energy Frontier Research Center	Lenoir City Middle School	Ultra Safe Nuclear Corporation
CAC Office on Aging	Little Oaks Academy	University of South Florida
Catholic Charities	Metro Drug Coalition	University of Tennessee Medical Center
Center for Materials Processing	Mississippi State University (Department of Forestry)	University of Tennessee Medical Center, Graduate School of Medicine
Cherokee Health Systems	Montana State University	University of Tennessee Space Institute
Choice Health Network	NASA	US Department of Energy
City of Florence	NASA MSFC	US Forest service
Dream Connection	National Association of Campus Activities	US Forest Service
East Knox Free Medical Clinic	National Institutes of Health	USDA Forest Service Products Laboratory
East Tennessee Children's Hospital	National Science Foundation	Utah State University
Eck Industries and Emrgy	Natural Hazards Center	Vanderbilt University
Electric Power Research Institute	NSSC	Vine School Health Center
Emerald Youth Foundation	Oak Ridge National Laboratory	Volunteers of America at Candleridge Plaza
Fellowship of Christian Athletes	Office of Nuclear Energy	Wesley House Community Center
Flibe Energy	Office on Aging	YWCA
Friends of Literacy	Oxford Instruments	
Fulton Bellows	Purdue University	
Girl Scouts USA	Salvation Army	
Girls, Inc.	SHADES of Development	
Goethe University	Shakespeare in Shades, an outreach program of Clarence Brown Theatre & Knox Education Foundation	
Hardwood Tree Improvement and Regeneration Center	Shiloh Industries	
I Support the Girls-Knoxville		