

2022 Appalachian Student Research Forum

Award Winners

Presenter Name, Place & Category, Title, Author List, Faculty Sponsor

Adebayo-Abikoye, Esther

Second Place, Doctoral HealthCare, Oral Presentation

The Association Between Substances Related Behavior and High Blood Pressure Among Women in the United States

Esther Adebayo-Abikoye, Amal Khoury, Nathan Hale

Dr. Nathan Hale, Health Services Management & Policy, East Tennessee State University

Adenusi, Adedeji

Second Place, Masters Public Health, Poster Presentation

Do Heavy Smoking and Early Onset of Smoking and Heavy Alcohol Intake Increase the Chance of Heart Condition?

Adedeji Adenusi, Olamide Asifat, Sheryl Strasser, Yan Cao, Shimin Zheng

Dr. Shimin Zheng, Biostatistics & Epidemiology, East Tennessee State University

Akeemat, Tijani

Third Place, Pharmaceutical Sciences Students, Poster Presentation

Rapidly Dissolving Polymeric Microneedle Skin Patch of Naloxone for Opioid Overdose Treatment

Tijani Akeemat, Maria Peláez, Prashant Dogra, Ashana Puri

Dr. Ashana Puri, Pharmaceutical Sciences, East Tennessee State University

Aldridge, Gabriel

Second Place, Masters Bio-Chem Sciences, Poster Presentation

Effects of Single and Dual Hypocretin-receptor Blockade or Knockdown of Hypocretin Amygdalar Projections on Alcohol

Drinking in Dependent Male Rats

Gabriel Aldridge, Tyler Zarin, Adam Brandner, Olivier George, Nicholas Gilpin, Vez Repunte-Canonigo, Pietro Sanna,

George Koob, Leandro Vendruscolo, Brooke Schmeichel

Dr. Brooke Schmeichel, Biomedical Sciences, East Tennessee State University

Asifat, Olamide

First Place, Masters Public Health, Poster Presentation

Low Birth Weight and Its Associated Risk Factors in The United States Using National Survey of Children Health Data 2016-2020

Olamide Asifat, Adedeji Adenusi, Sheryl Strasser, Yan Cao, Shimin Zheng,

Dr. Shimin Zheng, Biostatistics & Epidemiology, East Tennessee State University

Averhart, Kennedy

First Place, Undergraduate HealthCare, Poster Presentation

Profile of Poaceae Airborne Pollen (PAP) from 2005 to 2017 in Johnson City, Tennessee

Kennedy Averhart, Stefan Pienkowski

Dr. Reid Blackwelder, Family Medicine, East Tennessee State University

Behera, Jyoti

First Place, Doctoral Biosciences, Oral Presentation

Novel Structural Characteristics of Oil Biosynthesis Regulator Protein Wrinkled2 in Avocado

Jyoti Behera, Aruna Kilaru

Dr. Aruna Kilaru, Biological Sciences, East Tennessee State University

Belcher, Dewey

First Place, Pharmaceutical Sciences Students, Poster Presentation

Structurally Related Flavonoids CT1 and CT3 Have Cytotoxic Activity On Triple Negative MDA-MB-231 Breast Cancer Cells By Targeting The MEK-ERK Pathway

Dewey Belcher, Keagan Hackworth, Kendra Hagood, Jacqueline Aramburo, chukuwunyere Umeh, Kristen Michaud,

Cunningham Morgan, Mudd Garrett, Ruben Torrenegra, Mendez-Callejas Gina, Victoria Palau

Dr. Victoria Palau, Pharmaceutical Sciences, East Tennessee State University

Presenter Name, Place & Category, Title, Author List, Faculty Sponsor

Bethurum, Alva

First Place, Medical Students HealthCare, Poster Presentation

How Low Can We Go?: Comparing Long-term Oncologic Outcomes for APR and LAR in Very Low Rectal Cancer

Alva Bethurum, Alexander Hawkins, Glen Balch, Scott Regenbogen, Jennifer Holder-Murray, Sherif Abdel-Misih, Paul Wise, Roberta Muldoon

Dr. James Sheffey, Surgery, East Tennessee State University

Birchfield, Aaron

Second Place, Doctoral Biosciences, Oral Presentation

Crystallization of a Unique Flavonol 3-O Glucosyltransferase found in Grapefruit

Aaron Birchfield

Dr. Cecilia McIntosh, Biological Sciences, East Tennessee State University

Bittner, Kyle

Second Place, Masters Bio-Environmental Sciences, Oral Presentation

Amine and Pesticide Detection with Phthalocyanines

Kyle Bittner, Scott Dane

Dr. Dane Scott, Chemistry, East Tennessee State University

Boyer, Thomas

First Place, Undergraduate Social Sciences, Poster Presentation

An Exploratory Analysis of Stress, Burnout, and Depression in the IECMH Workforce

Thomas Boyer, Jessica Pooter-Rodriguez, Hannah Winston, Diana Morelen

Dr. Diana Morelen, Psychology, East Tennessee State University

Burleson, Courtney

Third Place, Doctoral HealthCare Group B, Poster Presentation

Improving Coordinated Mental Health Care Through an Enhanced Referral Process: A Quality Improvement Project

Courtney Burleson, Lisa Haddad

Dr. Lisa Haddad, Nursing, East Tennessee State University

Cantor, Morgan

First Place, Residents & Clinical Fellows Case Studies, Poster Presentation

Clinical Phenotype of Bernard Soulier Syndrome Case Resulting from Compound Heterozygous Inheritance

Morgan Cantor, Margaret Dorn, Marcela Popescu, Myesa Emberesh

Dr. Myesa Emberesh, Pediatrics, East Tennessee State University

Cartwright, Jake

Second Place, Doctoral Students & Fellows Bio & Social Sciences, Oral Presentation

Development of Metastatic Merkel Cell Carcinoma Following the Excision of Same-Sided Recurrent Auricular Melanoma

Jake Cartwright, Daniel Snyder, Francisco Moreno

Dr. Francisco Moreno, Community Medicine, East Tennessee State University

Cecchini, Arthur

Second Place, Residents & Clinical Fellows Case Studies, Poster Presentation

Percutaneous Mechanical Right Ventricular Support

Arthur Cecchini, Ahmad Othman, Amanda Cecchini, Manar Jbara

Dr. Manar Jbara, Internal Medicine, East Tennessee State University

Cutright, Josh

First Place, Undergraduate STEM + C, Poster Presentation

Heterogeneous Supercritical Catalyst for Friedel-Crafts Alkylation

Josh Cutright, Robert Jauregui, Savana Edwards, Ray Mohseni, Aleksey Vasiliev

Dr. Aleksey Vasiliev, Chemistry, East Tennessee State University

Eaton, Danielle

Second Place, Undergraduate STEM + C, Poster Presentation

Hydrologic analyses of Rocky Mount State Historic Site

Danielle Eaton, Robert McSweeney, Ingrid Luffman

Dr. Ingrid Luffman, Geosciences, East Tennessee State University

Presenter Name, Place & Category, Title, Author List, Faculty Sponsor

Farrand, Ariana

Second Place, Residents & Clinical Fellows Biosciences, Poster Presentation

Vagus Nerve Stimulation Mitigates Cardiac Symptoms and Alters Inflammatory Markers in Heart Failure Rats

Ariana Farrand, Regenia Phillips-Campbell, Coty Cooper, Trenton Banks, Mary Katherine Herndon, Alexandre Hebert, Bruce KenKnight, Eric Beaumont

Dr. Eric Beaumont, Biomedical Sciences, East Tennessee State University

Foster, Stephen

Third Place, Undergraduate Biomedical Sciences, Poster Presentation

Effects of Long-acting Kappa-opioid Receptor Antagonism on Compulsive Cocaine Self-administration

Stephen Foster

Dr. Brooke Schmeichel, Biomedical Sciences, East Tennessee State University

Hardgrave, Aaron

First Place, Masters Bio-Environmental Sciences, Oral Presentation

*Osteological Comparisons of the Eastern Newt (*Notophthalmus viridescens*) Between the Terrestrial Eft and Adult Stage.*

Aaron Hardgrave, Richard Carter

Dr. Richard Carter, Biological Sciences, East Tennessee State University

Headrick, Joseph

Third Place, Masters Public Health, Oral Presentation

The Effects of Dysregulating Cyclic-di-GMP Pathways on Survival of Salmonella in Chicken Eggs

Joseph Headrick, Jacob Schultz, Erez Mills, Erik Petersen

Dr. Erik Petersen, Health Sciences, East Tennessee State University

Howard, Amy

Second Place, Masters Public Health, Oral Presentation

At the Intersection of Transgender Attitudes, Identity Politics, and Vote Choice

Amy Howard, Wesley Wehde

Dr. Wesley Wehde, Political Science, International Affairs & Public Administration, East Tennessee State University

Hudson, Rachel

Third Place, Doctoral Biosciences, Poster Presentation

Noise Exposure Effects in Extended High Frequencies

Rachel Hudson, Marcy Hite, Marc Fagelson, Shannon Bramlette

Dr. Marcy Hite, Audiology & Speech Pathology, East Tennessee State University

Jones, Marissa

First Place, Doctoral Students & Fellows Bio & Social Sciences, Oral Presentation

Effects of Alcohol Withdrawal on Sleep Macroarchitecture and Microarchitecture in Female and Male Rats

Marissa Jones, Adam Brandner, Leandro Vendruscolo, George Koob, Janaina Vendruscolo, Marissa Jones

Dr. Brooke Schmeichel, Biomedical Sciences, East Tennessee State University

Jordan, Meredith

Second Place, Undergraduate Social Sciences, Poster Presentation

The Negative Relationship between Religiosity and Substance Use

Meredith Jordan, Lauren Ledford, Mary Jo Oliver, Andrea Clements

Dr. Andrea Clements, Psychology, East Tennessee State University

Kirkland, Logan

First Place, Undergraduate Biomedical Sciences, Poster Presentation

Exploration of Cholinergic and Noradrenergic Innervation of the Human Atrioventricular Node

Logan Kirkland, Chloe Garbe, Elizabeth Smith, Igor Efimov, Kalyanam Shivkumar, Peter Hanna, D. Hoover

Dr. Donald Hoover, Biomedical Sciences, East Tennessee State University

Linam, Bob

First Place, Masters Geospatial Sciences, Poster Presentation

Mapping the Buried Fort of Los Adaes, Capital of Spanish Texas 1729-1770, Using Geophysics

Bob Linam, Eileen Ernenwein

Dr. Eileen Ernenwein, Geosciences, East Tennessee State University

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Long, Mitchell

Second Place, Masters Bio-Geo Sciences, Poster Presentation

Risk-Prone and Risk-Averse Foraging Strategies Enable Niche Partitioning in Two Diurnal Orb-Weaving Spider Species

Mitchell Long, Thomas Jones, Darrell Moore, Lev Yampolsky

Dr. Thomas Jones, Biological Sciences, East Tennessee State University

Mahan, Kristin

Third Place, Doctoral Students & Fellows Bio & Social Sciences, Oral Presentation

Examining Effects of Direct and Indirect Experiences of Childhood Adversity on Suicidality in Youth who have Engaged in Sexually Abusive Behaviors

Kristin Mahan, Jill Stinson

Dr. Jill Stinson, Psychology, East Tennessee State University

Melton, Margaret

Second Place, Doctoral HealthCare Group B, Poster Presentation

Do Block Grant Resources Equitably Reach Rural Communities? A 50 State Analysis

Margaret Melton, Michael Meit, Casey Balio, Kate Beatty, Stephanie Mathis

Dr. Kate Beatty, Health Services Management & Policy, East Tennessee State University

Millard, Jarred

Third Place, Medical Students HealthCare, Poster Presentation

Assessing Virtual and Augmented Reality Training for Paramedic Students

Jarred Millard, Stephen Blankenship, Andrew Berry

Dr. Stephen Blankenship, College of Medicine, East Tennessee State University

Onakpoma, Francis

Third Place, Masters Public Health, Poster Presentation

National and Tennessee Trends in the Prevalence of Obesity and Overweight among High School Students Using YRBS Data 1999-2019

Francis Onakpoma, Sheryl Strasser, Yan Cao, Shimin Zheng

Dr. Shimin Zheng, Biostatistics & Epidemiology, East Tennessee State University

Osedeme, Fenose

First Place, Doctoral HealthCare, Oral Presentation

Perceptions, knowledge, and attitudes about Long-Acting Reversible Contraceptives (LARCs) among Women in Appalachian Tennessee

Fenose Osedeme, Katie Baker, Hadii Mamudu, Deborah Slawson

Dr. Deborah Slawson, Community & Behavioral Health, East Tennessee State University

Owens, Hillary

First Place, Doctoral Biosciences, Poster Presentation

A Method for Measuring Nicotine in Animals Following a Vaping Model

Hillary Owens, Mikaela Rhodes, Kathryn Cifelli, Todd Hillhouse, Brooks Pond, Stacy Brown

Dr. Brooks Pond, Pharmaceutical Sciences, East Tennessee State University

Owens, Misty

Second Place, Pharmaceutical Sciences Students, Poster Presentation

Transcutaneous Auricular Vagal Nerve Stimulation (taVNS) as a Potential Treatment for Cardiac, Gastric Motility, and Migraine Disorders

Misty Owens, Laura Dugan, Ariana Farrand, Coty Cooper, Vitaly Napadow, Eric Beaumont

Dr. Eric Beaumont, Biomedical Sciences, East Tennessee State University

Parungao, Daryl

Second Place, Doctoral HealthCare Group A, Poster Presentation

Exploring the Experiences of Emerging Adulthood Among Rural Appalachian Students

Daryl Parungao, Rachel Miller-Slough

Dr. Rachel Miller-Slough, Psychology, East Tennessee State University

Patel, Shivam

Second Place, Undergraduate HealthCare, Poster Presentation

Charting the Microbiome Biodiversity of the Appalachian Highlands Region: A Novel Study

Shivam Patel, Sean Fox

Dr. Sean Fox, Health Sciences, East Tennessee State University

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Peeters, Loren

Second Place, Doctoral Biosciences, Poster Presentation

Metabotropic Glutamate Receptor Type 5 (Mglu5) as a Therapeutic Target Towards the Enhanced Rewarding Effects of Nicotine and Deficits in Sensorimotor Gating in a Heritable Model of Drug Abuse Vulnerability in Psychosis

Loren Peeters, Liza Wills, Seth Turney, Christopher Varnum, Cynthia Vied, Justin Gass, Russell Brown

Dr. Russell Brown, Biomedical Sciences, East Tennessee State University

Peprah-Yamoah, Emmanuel

First Place, Masters Bio-Chem Sciences, Poster Presentation

Phosphorus-Doped Carbon Fiber Ultramicroelectrodes as Electrochemical Sensors for Detection of Hydrogen Peroxide

Emmanuel Peprah-Yamoah, Eric Wornyo, Gregory Bishop

Dr. Gregory Bishop, Chemistry, East Tennessee State University

Pierce, Briar

Second Place, Masters Geospatial Sciences, Poster Presentation

History to Data: Converting Topographic Maps into Digital Elevation Models

Briar Pierce, Eileen Ernenwein

Dr. Eileen Ernenwein, Geosciences, East Tennessee State University

Ragsdale, Raven

First Place, Masters Bio-Geo Sciences, Poster Presentation

*Ecdysis and Locomotor Circadian Rhythms and Differently Entrained to Temperature and Light Cycles in the Flesh Fly *Sarcophaga Crassipalpis**

Raven Ragsdale, Karl Joplin, Thomas Jones, Raven Ragsdale

Dr. Darrell Moore, Biological Sciences, East Tennessee State University

Razura, Diego

First Place, Medical Students Biosciences, Poster Presentation

Design, Molecular Cloning and Expression of Integrin αD Mutants for the Functional Analysis of Integrin Ligand Binding Properties

Diego Razura, Valentin Yakubenko, Jared Casteel, Kasey Keever

Dr. Valentin Yakubenko, Biomedical Sciences, East Tennessee State University

Reynolds, Garrett

First Place, Masters Public Health, Oral Presentation

*Cyclic Di-GMP Regulates Biofilm Formation, Desiccation Tolerance, and Motility in *Acinetobacter Baumannii**

Garrett Reynolds, Gabrielle Shipstone, Gabriel Smith, Erik Petersen

Dr. Erik Petersen, Health Sciences, East Tennessee State University

Ridley, Elizabeth

First Place, Doctoral HealthCare Group A, Poster Presentation

The Effects of Rejection Sensitivity on Attention and Performance Monitoring Event-Related Potentials

Elizabeth Ridley, E. Sellers

Dr. Eric Sellers, Psychology, East Tennessee State University

Robinson, Fulton

First Place, Medical Students Case Studies, Poster Presentation

Combining Sharp Excision and Electrocautery Dermabrasion in the Treatment of Rhinophyma

Fulton Robinson, Jake Cartwright, Natalie Dixon, Alicia Billington

Dr. Alicia Billington, Surgery, East Tennessee State University

Sanku, Koushik

Third Place, Residents & Clinical Fellows Case Studies, Poster Presentation

Furosemide Induced Tubulointerstitial Nephritis

Koushik Sanku, Lalith Namburu, Sai Kommineni, Tharun Bandarupalli, David Joseph

Dr. Bhavesh Gajjar, Internal Medicine, East Tennessee State University

Santulli, Madeline

Second Place, Medical Students Case Studies, Poster Presentation

MIS-C with Neurologic Features

Madeline Santulli, John Schweitzer

Dr. John W. Schweitzer, Pediatrics, East Tennessee State University

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Shore, Summer

Second Place, Medical Students HealthCare, Poster Presentation

Rise in Neonatal Abstinence Syndrome Rate is Associated With Increased Buprenorphine Prescription Rate

Summer Shore, Martin Olsen, Nicole Lewis

Dr. Martin Olsen, Obstetrics & Gynecology, East Tennessee State University

Siddiqui, Nausheen

Second Place, Medical Students Biosciences, Poster Presentation

The Effects of Chronic Stress on CNTF/UCN3 in the pBNST and Hypothalamic PVN in Mice

Nausheen Siddiqui, Cuihong Jia, Theodor Hagg

Dr. Cuihong Jia, Biomedical Sciences, East Tennessee State University

Siegel, Erin

Third Place, Undergraduate Social Sciences, Poster Presentation

Intimate Partner Violence and COVID-19

Erin Siegel, Rachel Carpenter, Jill Stinson

Dr. Jill Stinson, Psychology, East Tennessee State University

Snipes, Chelsie

Second Place, Masters Bio-Chem Sciences, Oral Presentation

Variation in the Stylohyal-Tympanic Bone Articulation in Laryngeally Echolocating Bats and Its Implications Regarding Function

Chelsie Snipes, Richard Carter

Dr. Richard Carter, Biological Sciences, East Tennessee State University

Stallworth, Lindsey

Third Place, Undergraduate HealthCare, Poster Presentation

Fecal Fermentation Profile, Nutrient Proximate Analysis and Well-being of Aerobic versus Anaerobically Trained Female Athletes

Lindsey Stallworth, Anna Whitlock, Sonja Lafollette, Laiken Lewis, Kristy Thomas, Amy Wahlquist, W. Clark, Mary Andreae, Michael Stone

Dr. William Clark, Health Sciences, East Tennessee State University

Surles, Kristen

First Place, Doctoral HealthCare Group B, Poster Presentation

Clinic Capacity to Provide Patient-centered Contraceptive Care to Adolescents in the U.S. South: Impact of Rurality and Clinic Type

Kristen Surles, Kate Beatty, Liane Ventura, Jordan de Jong, Michael Smith, Amal Khoury

Dr. Kate Beatty, Health Services Management & Policy, East Tennessee State University

Tetteh, Michael

First Place, Masters Bio-Chem Sciences, Oral Presentation

Folic Acid-Carbon Dots-Doxorubicin (FA-CD-DOX) Nanoparticles as Cancer Theranostic

Michael Tetteh, Hua Mei

Dr. Hua Mei, Chemistry, East Tennessee State University

Turney, Seth

Second Place, Undergraduate Biomedical Sciences, Poster Presentation

Investigation of the Adenosine A(2A) Receptor on the Enhanced Rewarding Effects of Nicotine and Dopamine D2 Receptor Signaling in a Novel Heritable Model of Drug Abuse Vulnerability

Seth Turney, Loren Peeters, Olivia Jennings, Liza Wills, Russell Brown

Dr. Russell Brown, Biomedical Sciences, East Tennessee State University

Wills, Liza

First Place, Residents & Clinical Fellows Biosciences, Poster Presentation

Behavioral Effects and Neurobiological Mechanisms of 3-Aminobenzimide in a Rodent Model of Chronic Psychological Stress

Liza Wills, Hui Wang-Heaton, Michelle Chandley, Loren Peeters, Gregory Ordway, Russell Brown

Dr. Russell Brown, Biomedical Sciences, East Tennessee State University