

Kentucky Science & Engineering Fair- General Award Script - All Divisions

Animal Sciences

3rd Place

Alice Beatty - LRSEF - Middle School

Sound in Hermit Crab Learning

Sundus (Sunny) Ghuneim - Central Kentucky Regional Science & Engineering Fair - High School

Adult Infection and Stability of the Helicoverpa zea Nudivirus

2nd Place

Ishaan Jindal - duPont Manual Regional Fair - High School

A Novel Approach to Administering Cardiac Progenitor Cells in Mice following Chronic Myocardial Infarction

Kian Rosenau - Central Kentucky Regional Science & Engineering Fair - Middle School

Which Breed of Chicken Lays the Egg with the Strongest Eggshell?

1st Place

Ella Diehl - LRSEF - Middle School

Exploring Noise Pollution Stress in Lady beetle Larvae

Megan Slusarewicz - Central Kentucky Regional Science & Engineering Fair - High School

Effect of Oxidation on the Exposure of Chitin in the Ova of the Strongylus spp.

Behavioral and Social Sciences

3rd Place

Sarah Cecil - LRSEF - High School

How Reliable Are Eyewitness Testimonies?

Alexander Stumbur - Central Kentucky Regional Science & Engineering Fair - Middle School

Multi vs. Mono. What is the effect of being multilingual on the short and long term memory?

2nd Place

Shelby McCubbin - Central Kentucky Regional Science & Engineering Fair - High School

Attitudes toward Cancer among Healthcare Students

Bhavya Vyas - Meyzeek Regional Science Fair - Middle School

Can you multitask?

1st Place

Camella Korner - Meyzeek Regional Science Fair - Middle School

Can the size and features of a hand held tool effect the accuracy of the work?

Betty Ngo - duPont Manual Regional Fair - High School

Moderating Effect of Social Appearance Anxiety on Thin Ideal Internalization and ED Symptoms

Biochemistry

3rd Place

Kristin Drummond - Central Kentucky Regional Science & Engineering Fair - Middle School

Medication's Effect on Enzyme Action

Rehan Ghanta - Central Kentucky Regional Science & Engineering Fair - High School

Determining the Stability of Different Histone H2B Variant Containing Octamers

2nd Place

Arushi Gupta - duPont Manual Regional Fair - High School

Mechanisms of Macrophage Apoptosis in Diabetic Atherosclerosis Lesions

Sophie Rodino - Science & Engineering Fair of Northern Kentucky - Middle School

Using Mineral Nanoparticles to Reduce Free Radicals

1st Place

Rosemary Peters - LRSEF - Middle School

Sweet or Deadly? Inhibiting Fructose Glycation

Aysha Puzhakkaraillath - duPont Manual Regional Fair - High School
Exercise Mitigates Cognitive Impairment in High Fat Diet Fed Mice via Metabolic and Epigenetic Dysregulation

Biomedical and Health Sciences

3rd Place

Isaac Freedman - Meyzeek Regional Science Fair - Middle School
Blue Light "Dark Sides" II
Riya Shah - duPont Manual Regional Fair - High School
Comparison of Breastfed and Formula-Fed Infants with Neonatal Abstinence Syndrome

2nd Place

Agharnan Gandhi - duPont Manual Regional Fair - High School
Characterization of the Role of the FXII-uPAR Axis in Neutrophil Function and Thromboinflammation
Grayson Newman - Central Kentucky Regional Science & Engineering Fair - Middle School
How Safe are Helmets?

1st Place

Jacob Ioffe, Graham Overstreet - duPont Manual Regional Fair - High School
Meibum Compositional Changes with Screen Viewing Time
Nicholas Prospero - Science & Engineering Fair of Northern Kentucky - Middle School
NSAIDs: The Fast and the Faster

Biomedical Engineering

3rd Place

Hannah Martin - LRSEF - High School
Does Gender Play A Role In Risk For A Total Joint Replacement?

2nd Place

Elif Ozyurekoglu - duPont Manual Regional Fair - High School
The Strength of Epitendinous Tendon Repairs and When a Core Suture is Needed

1st Place

Bhargav Ramesh - duPont Manual Regional Fair - High School
3-D Printing of Novel Biocompatible and Biodegradable Polymers to Enhance Tissue Regeneration and Wound Healing

Cellular and Molecular Biology

3rd Place

Shivani Nellore - LRSEF - High School
Some Cancer-Associated K-Ras Mutants can have Gain of Function Even When Bound to GDP
Andrew Wang - Meyzeek Regional Science Fair - Middle School
The effects of Porphyromonas gingivalis on the viability of esophageal cancer cells

2nd Place

Katie Quinn - LRSEF - Middle School
Exploring Atrazine's Neurotoxicity as a Possible Cause of Parkinson's Disease
Edward Zhong - LRSEF - High School
Can Yeast Help Boost the Immune Response to Cancer

1st Place

Avery Ramsey - LRSEF - Middle School
The Impacts of Flame Retardants on Stem Cell Behavior
Madison Sneve - duPont Manual Regional Fair - High School
TrkC Identifies a Putative Mechanoreceptor That Specifically Innervates Taste Papillae

Chemistry

3rd Place

Shreyas Ghare - Meyzeek Regional Science Fair - Middle School

The Effect of Food on Salivary pH

Vivian Pham - duPont Manual Regional Fair - High School

Examining the Sensitivity and Reactivity between Luminol and Bluestar Magnum in Detecting Diluted Blood Concentrations

2nd Place

Angus Maske - Central Kentucky Regional Science & Engineering Fair - High School

Lignin Linkage Dimer Synthesis and Testing Towards Lignin Depolymerization

Jack Mulvihill - LRSEF - Middle School

Creating Pawpaw Bioplastics

1st Place

Oliver Carmack - LRSEF - Middle School

Improving Hydrophobicity In Bioplastics

Madelyn Steineker - LRSEF - High School

How much fluoride is absorbed in the mouth from drinking water?

Computational Biology and Bioinformatics

3rd Place

Austin Li - Central Kentucky Regional Science & Engineering Fair - High School

Bioinformatics Analysis of ERBIN Expression in Colorectal Cancer

Woody Schoenbachler - LRSEF - Middle School

Exploring Indexing to Discover Novel Genes and Proteins.

2nd Place

Vedha Balamurugan - LRSEF - Middle School

Type 2 diabetes in Children: A new trend affecting kids

Zsombor Gal - Central Kentucky Regional Science & Engineering Fair - High School

Digital Analysis and Characterization of Previously-Associated Proteinopathies in Brains of Demented Patients

1st Place

Dhiraj Kanneganti - Meyzeek Regional Science Fair - Middle School

Using a Device to Measure One's External Body Temperature

Mark Raj - duPont Manual Regional Fair - High School

Designing a Reinforcement Learning Controller for Insulin Delivery in an Artificial Pancreas

Earth and Environmental Science

3rd Place

Jin Cho - Central Kentucky Regional Science & Engineering Fair - High School

Stone Concentrations' Effects on Soil Water Properties

Henry Doyle - LRSEF - Middle School

Sound Pollution: Sound kills Algae

2nd Place

Jack Boylan, Harshith Gontla - duPont Manual Regional Fair - High School

Using Iron Siderophores from *H. Campisalis* to Reverse Ocean Acidification

Skylar Wiley - Science & Engineering Fair of Northern Kentucky - Middle School

Which Grass Seed Grows Best on The Side of The Road?

1st Place

Aidan Middendorf - Science & Engineering Fair of Northern Kentucky - Middle School

How does water toxicity affect daphnia magna?

Cindy Wan, Emma Cammack - duPont Manual Regional Fair - High School

The Impact of Highway Noise Barrier Walls on Mitigating Mobile Source Air Pollution

Embedded Systems

3rd Place

Shraman Kar - Meyzeek Regional Science Fair - Middle School
Garden Bot - Healthy Garden while conserving groundwater using intelligent machine
Patrick Yopp - LRSEF - High School
Smart Pipes

2nd Place

Jack DuPlessis - duPont Manual Regional Fair - High School
Audible knobs
Henry Murr - LRSEF - Middle School
Noninvasive Drug Testing via Image Processing

1st Place

Will Ballantine - LRSEF - Middle School
Sleep siren: a sudden infant death syndrome alert system.
Nina Render - duPont Manual Regional Fair - High School
The Creation of a Novel Detection System to Prevent Vehicular Heat Stroke

Energy: Chemical

3rd Place

Sukitha Gunasena, Ruchira Sumanasekera - duPont Manual Regional Fair - High School
The Effect of Fluorination of Graphene on the Effectiveness of Supercapacitors and Batteries
Cullen Walsh - LRSEF - Middle School
Exploring the use of lunch room waste in biogas production

2nd Place

Sophie Ma - duPont Manual Regional Fair - High School
The Effect of Herbivore Mammal Waste Type on the Amount of Biogas Generated in Biogas Generators
Jash Pola - Meyzeek Regional Science Fair - Middle School
Effect of waste product on a microbial fuel cell

1st Place

Varshini Loganathan - Meyzeek Regional Science Fair - Middle School
From Kitchen Waste To Biogas
Helen Pang - Central Kentucky Regional Science & Engineering Fair - High School
Structure/Function Relationships of P-quinones for Redox Flow Batteries

Energy: Physical

3rd Place

Adam Abayev - LRSEF - High School
Charge Funneling
Sophia Schindler - LRSEF - Middle School
Capturing Ambulatory Energy

2nd Place

Adrian Morris - LRSEF - Middle School
Wasted Wind: Designing Highway Wind Turbines
Vinh Pham - duPont Manual Regional Fair - High School
Harnessing the Sun's Energy to Cook Items with Maximum Efficiency

1st Place

Emma Heironimus - duPont Manual Regional Fair - High School
Collecting Kinetic Energy as a Toll Alternative
Olivia Lee - Central Kentucky Regional Science & Engineering Fair - Middle School
A Shocking Breeze

Engineering Mechanics

3rd Place

Varun Adelli - Meyzeek Regional Science Fair - Middle School

Firefighting Drone V 1.0

Rachel Spaulding - LRSEF - High School

Solar Updraft Tower-Wind Turbine Hybrid: Optimizing Power Generation in Multifarious Climatic Conditions Using Computational Fluid Dynamics Analysis

2nd Place

Joshua Jacob - LRSEF - High School

Development of a Hybrid Direct Write 3D Printer: a Novel One-Step Approach to Fabricating Multi-Layer Functional Devices and Flexible Electronics Through Reactive Inkjet Printing

Zachary Washnock - Central Kentucky Regional Science & Engineering Fair - Middle School

Belay the future

1st Place

Kiera Fehr - Central Kentucky Regional Science & Engineering Fair - Middle School

Saved In Space The Mission Continues!

Rachel Seevers - Central Kentucky Regional Science & Engineering Fair - High School

The Virtual Winglet: A Novel Approach to Boundary Layer Manipulation and Wingtip Vortex Suppression

Environmental Engineering

3rd Place

Vivienne Lucier - Central Kentucky Regional Science & Engineering Fair - Middle School

Using Lenticular Lenses to Reduce the Amount of Artificial Heating and Cooling of a House

Julia Radhakrishnan - Central Kentucky Regional Science & Engineering Fair - High School

Nitroreductase-Functionalized Electrodes for Nitroaromatic Reduction

2nd Place

Ellie Avery - Meyzeek Regional Science Fair - Middle School

Pollution Solution

Adithya Iyengar, Louis Yang - duPont Manual Regional Fair - High School

A Novel Approach to Cleansing Urban Streams with the Utilization of Natural Filter Materials and Solar Disinfection

1st Place

Claire Ackerman - Central Kentucky Regional Science & Engineering Fair - Middle School

Studying the Effects of Household Repellents on Brown Marmorated Stink Bugs

Anjali Chadha - duPont Manual Regional Fair - High School

Development of a Fully Automated 3d Printed IoT Sensor for Arsenic Detection in Groundwater

Materials Science

3rd Place

Gus Dillon - LRSEF - Middle School

Kentucky Fibers: A Novel Concrete Product

Sneha Patil - duPont Manual Regional Fair - High School

The Effect of Different Lip Balms on the Protection of Lips from UV Rays

2nd Place

Anirudh Devara - Meyzeek Regional Science Fair - Middle School

Recycling Styrofoam using Natural Limonene

Jonas Gordon - duPont Manual Regional Fair - High School

The Effect of Different Types of Sugar on Sugar Rocket Boosters

1st Place

Samuel Flynn - LRSEF - Middle School

Solving Traffic Problems with Novel Self-Healing Asphalt

Brenna Wallin - Central Kentucky Regional Science & Engineering Fair - High School

Liquid Armor: Investigating the Impact and Compression Properties of Novel Memory Foam Nanocomposites Impregnated with Shear Thickening Fluid

Mathematics

3rd Place

Brooke Logsdon - LRSEF - Middle School

Math Flash! Exploring Math Patterns in Lightning

Deev Talati - duPont Manual Regional Fair - High School

Develop a mathematical model to predict performance of a stock during a republican or a democratic government

2nd Place

Isabella Cristobal - LRSEF - Middle School

Mathematical Analysis of Crown Shyness Tree: The Tipuana Tipus

Cassidy Whited - LRSEF - High School

Graphing Our Paths

1st Place

Rohin Dutt - Meyzeek Regional Science Fair - Middle School

Data Analysis & Modeling using Meteorological Temperature Recordings

Nathaniel Gillispie - Science & Engineering Fair of Northern Kentucky - High School

Prime Patterns

Microbiology

3rd Place

Lauren Cail - LRSEF - High School

Musical Pathogens

Katarina Salisbury - Central Kentucky Regional Science & Engineering Fair - Middle School

Are We Getting Too Green? The Effects of Phosphate on Cyanobacteria

2nd Place

Anne Liang - duPont Manual Regional Fair - High School

The Effects of Grape Components on Oral Bacteria and Inflammation

Mary Claire Stukenborg - LRSEF - Middle School

Not So Sweet: Could Sucralose Impact the Gut Microbiome

1st Place

Connor Keenan - Meyzeek Regional Science Fair - Middle School

Turning Human Waste Into Energy

Elaina Render - duPont Manual Regional Fair - High School

The Effects of Sugar Substitutes and Prebiotics on the Gut Microbiome

Physics and Astronomy

3rd Place

Vivek Balakrishna - duPont Manual Regional Fair - High School

The Construction of an Inexpensive & Modular Telescopic Camera System

Dorothy Claire George, Abigail Henz - Central Kentucky Regional Science & Engineering Fair - Middle School

Viscosity Curiosity

2nd Place

Arimitsu Horikawa-Strakovsky - Central Kentucky Regional Science & Engineering Fair - Middle School

Attack of the Muons

Yuke Wang - Central Kentucky Regional Science & Engineering Fair - High School

Real Time Visualization of Nuclear Spectroscopy Data

1st Place

Lilly Gonzalez - duPont Manual Regional Fair - High School

A Kinetic Monte Carlo Study of Effects of Adatom-Adatom Repulsive Interactions on Nucleation & Growth of Nanoclusters

Samuel Sherrard, Nathaniel Duncan - Science & Engineering Fair of Northern Kentucky - Middle School
Consumer Labeling for Toilet Paper

Plant Sciences

3rd Place

Mattie Diehl - LRSEF - Middle School

Kudzu Killer: Using Alleopathy to Control an Invasive Plant

Caleb Mensah - Central Kentucky Regional Science & Engineering Fair - High School

Functional Analysis of Arabidopsis thaliana Dehydrin T-DNA Insertional Mutant Seeds

2nd Place

Megan Chun - Science & Engineering Fair of Northern Kentucky - Middle School

Fish are Fertilizer, Not Food

Tryphena Sithu - LRSEF - High School

Symbiosis of Azospirillum brasilense and Three Selected Crops in a Hydroponic System

1st Place

Jadyn Balsamo - LRSEF - Middle School

Exploring Drought Communication in Allelopathic vs. Companion Plants

Megan Guan - Central Kentucky Regional Science & Engineering Fair - High School

Ion CP- FESEM: A Novel Approach for the Study of Internal Pollen Structure

Robotics and Intelligent Machines

3rd Place

Mahasen Alsaadi - LRSEF - Middle School

Seboard coding

Raymond Suo, Vaibhav Vinukonda - duPont Manual Regional Fair - High School

Utilizing Image Processing, Machine Learning, and Ultrasound Sensors to Create a Device for the Visually Impaired

2nd Place

Erik Han - Central Kentucky Regional Science & Engineering Fair - High School

Deep Learning of Mammogram Images to Enable Automatic and Accurate Breast Cancer Screening

Melissa Hannemann - Central Kentucky Regional Science & Engineering Fair - Middle School

Baby On Board

1st Place

Varun Chandrashekhar - Meyzeek Regional Science Fair - Middle School

Ultrasonic Aid For The Visually Impaired

Pranav Senthilvel, Karthik Jetty, Shreshth Srivastava - duPont Manual Regional Fair - High School

The Development of a Holistic Cardiovascular Disease Screening System Utilizing a Low-Cost Electrocardiogram and a Novel Machine Learning Algorithm

Systems Software

3rd Place

Ken Ryumae, Mina Ryumae - Science & Engineering Fair of Northern Kentucky - High School

How to Program the Optimal Cryptocurrency Mining Mechanism for Electroneum (ETN)

2nd Place

Srikur Kanuparth - duPont Manual Regional Fair - High School

Algorithmic Composition of Classical Music from Sequential Pattern Mining and Markov Chains

Aras Shirwan - Meyzeek Regional Science Fair - Middle School

Patient's Records Data Software 2.0

1st Place

Nikhil Polepalli - duPont Manual Regional Fair - High School
Developing a wearable device along with an android application to control heart rate via music
Rishi Vinukonda - Meyzeek Regional Science Fair - Middle School
Alzheimers Remember app

Translational Medical Science

3rd Place

David Ma - Central Kentucky Regional Science & Engineering Fair - High School
An Ensemble Machine Learning Approach to Predict Cognitive Impairment and Amyloid Deposition Through Metabolic and Vascular Deficits

2nd Place

Sophia Bryant - LRSEF - Middle School
Exploring the Potential Anti-Cancer Abilities of Native KY Fruit
Vaitheesh Jaganathan - LRSEF - High School
CAN TENDER COCONUT WATER INHIBIT THE GROWTH OF DIFFERENT TYPES OF CANCER CELLS

1st Place

Abigail Livingston - LRSEF - Middle School
Old Into New: Exploring the Use of Acetaminophen as an Anti-Cancer Agent
Nivedha Loganathan - duPont Manual Regional Fair - High School
The Wound Healing Mechanisms of Epicertin, A Cholera Toxin B Subunit Variant