Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winners

Physical Science

Honorable Mention
Name: Evie Coe
Project Title: Super Slime
School: Mount Royal Elementary/Middle School
Grade: 6

Honorable Mention
Name: Zoe Quiroga
Project Title: Boats n' Floats
School: Mount Royal Elementary/Middle School
Grade:6

Honorable Mention
Name: Roman Talaiver
Project Title: 3…2…1…Acid Base Reactions!
School: Hamilton Elementary/Middle School
Grade: 6

3rd Place
Name: Zia Jackson
Project Title: Shooting Pucks
School: Mount Royal Elementary/Middle School
Grade: 6

2nd Place
Name: Vasyl Dail
Project Title: How a Rocket's Nose Cone Affects Its Efficiency
School: Hamilton Elementary/Middle School
Grade: 8

1st Place
Name: Miles Cannon
Project Title: Superhuman Spatial Hearing
School: Hamilton Elementary/Middle School
Grade: 8

Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winners

Biological Science

Honorable Mention
Name: Kori Goode
Project Title: Musical Growth
School: Patterson Park Public Charter School
Grade: 7

Honorable Mention
Name: Elif Fullick
Project Title: The Fat Cat Experiment
School: Mount Royal Elementary/Middle School
Grade: 6

3rd Place
Name: David Poindexter
Project Title: Which Antibacterial Soap Works Best
School: Cross Country Elementary/Middle School
Grade: 6

2nd Place
Name: Shawney Dove
Project Title: Which Chip Is the Most Acidic
School: Thomas Jefferson Elementary/Middle School
Grade: 7

1st Place
Name: Peyton Davey
Project Title: Micellar Water vs. Oil Cleanser
School: Cross Country Elementary/Middle School
Grade: 7

Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winners

Earth and Environmental Science

Honorable Mention
Name: Keyla Hernandez
Project Title: Wavelength
School: James McHenry Elementary/Middle School
Grade: 6

Honorable Mention
Name: Nico Singh
Project Title: The Effectiveness of Four Different Filtration Methods
School: Mount Royal Elementary/Middle School
Grade: 8

3rd Place
Name: Ayishah Niyas
Project: Climate Chemistry How to Make the Best Fake Scow
School: Armistead Gardens Elementary/Middle School
Grade: 7

2nd Place
Name: Alexander Washington
Project Title: From Trash to Gas: Biomass
School: Roland Park Elementary/Middle School
Grade:6

1st Place
Name: Freya Sherwood
Project Title: Baltimore Water Quality
School: Mount Royal Elementary/Middle School
Grade: 6

Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winner

Mathematics and Computer Science

Honorable Mention
Name: Dahlia Pousson
Project Title: The Accuracy of Godot's Physics Simulation
School: Mount Royal Elementary/Middle School
Grade: 8

3rd Place
Name: Patrick Hock
Project Title: AI vs. Human
School: Hamilton Elementary/Middle School
Grade: 8

2nd Place
Name: Penelope Nash-Pappalardo
Project Title: Bias in Generative AI
School: Roland Park Elementary/Middle School
Grade: 6

1st Place
Name: Aliona Penniston
Project Title: Identifying Hate Speech with Machine Learning
School: Mount Royal Elementary/Middle School
Grade: 8

Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winners

Engineering

Honorable Mention
Name: Lily Willis
Project Title: The Wheel Deal How the Size of a Vehicle's Wheeles Affect Its Speed
School: Hamilton Elementary/Middle School
Grade: 8

Honorable Mention
Name: Andrew Beaudry
Project Title: IR Sensors for Fire Security
School: Roland Park Elementary/Middle School
Grade: 7

Honorable Mention
Name: Abigail Miller
Project Title: FrostScreen Physical Ad-Blocker
School: Mount Airy Christian Academy
Grade: 8

3rd Place
Name: Brayden Parks
Project Title: Oobleck Armor
School: Mount Airy Christian Academy
Grade: 8

2nd Place
Name: Victoria Weinig
Project Title: My Robot Willie
School: Mount Airy Christian Academy
Grade: 8

1st Place
Name: Ayan Kabaria
Project Title: Integrated Device for Early Detection of Subtalar Pronation Using Array Sensors
School: Clarksville Middle School
Grade: 7

Morgan State University-Science-Mathematics-Engineering Fair 2024

Middle School Winners

Team Project

2nd Place
Name: Vani Sharma, Madison Vanderable, Partishtha Devkota
Project Title: Capstone Project
School: Roland Park Elementary/Middle School
Grade: 7

1st Place
Name: Tsega Meressa and Vee George
Project Title: Go With the Flow
School: Roland Park Elementary/Middle School
Grade: 7

Morgan State University-Science-Mathematics-Engineering Fair 2024

High School Winners

Biological Science

Honorable Mention
Name: Dhruv Veda
Project Title: Investigating the Potential of Phytoncide as an Epigenetic Regulator for the Snowball Effect at the Center of the Opioid Crisis
School: Centennial High School
Grade: 10

Honorable Mention
Name: Xilin Wei
Project Title: A Casual Relationship Between Exercise and Depression
School: Marriott Ridge High School
Grade: 10

3rd Place
Name: Camille Coffey
Project Title: Exploring Lipoprotein De-fish-encies as a Result of Genetic Mutation
School: Baltimore Polytechnic Institute
Grade: 12

2nd Place
Name: Kelly Ji
Project Title: CisRF: A Novel Machine Learning Approach to Predict Context-dependent Impacts of Disease Associated Cis-regulatory Elements on Gene Expression
School: Centennial High School
Grade: 10

1st Place
Name: Lavender Hall
Project Title: "Fin"-tastic Fish Efficacy of Nonsteroidal Aromatase Inhibitors on the Sex Differentiation and Gonadal Development of Female Zebrafish
School: Baltimore Polytechnic Institute
Grade: 12

Morgan State University-Science-Mathematics-Engineering Fair 2024

High School Winners

Earth and Environmental Science

2nd Place
Name: Kei Mese-Jones
Project Title: Reconstructing Earth's Past: Assessing the Impact of Dolomitization on Upper Ediacaran Carbonates
School: Baltimore Polytechnic Institute
Grade: 12

1st Place
Name: Maya Molina
Project Title: Investigating plant-plant interactions under drought for two grassland species
School: Baltimore Polytechnic Institute
Grade: 12

High School Winner

Physical Science

2nd Place
Name: Ayush Ghosh
Project Title: Investigating a Sodium Bicarbonate Dosing Methodology for Recirculating Aquaculture Systems
School: Centennial High School
Grade: 11

1st Place
Name: Grace Wang
Project Title: Determining the Minimum Detectable Exoplanet Transit Depth for LCO Telescopes
School: The Park School of Baltimore
Grade: 11

Morgan State University-Science-Mathematics-Engineering Fair 2023

High School Winners

Mathematics and Computer Science

Honorable Mention
Name: Albert Tang
Project Title: Real-time Body Movement Tracking of Athletes via a CNN-Based Approach
School: Marriott Ridge High School
Grade: 9

Honorable Mention
Name: Zoe Hong
Project Title: Split-Second Strategy: Effects of Time Pressure on Confidence and Accuracy in Decision-Making
School: Baltimore Polytechnic Institute
Grade: 12

3rd Place
Name: William Gao
Project Title: A Federated Learning-Driven Diagnostic System for Metastatic Breast Cancer: Collaborative Medical AI Systems to Support Patient Outcomes in Developing Regions
School: Centennial High School
Grade: 12

2nd Place
Name: Thomas Li
Project Title: Towards Precision Quantification of Parkinson's Symptoms using an Optical-Based Contactless Leap Motion Controller
School: River Hill High School
Grade: 11

1st Place
Name: Sai Siddhish Chandra Sekaran
Project Title: Improving the Detection and Prevention of Credit Cared Fraud with the Use of Artificial Intelligence
School: Centennial High School
Grade: 10

Morgan State University-Science-Mathematics-Engineering Fair 2024

High School Winners

Engineering

Honorable Mention
Name: Dev Gadhia
Project Title: Zotarolimus-Rosuvastatin Eluting Biodegradable Stent: A novel device to treat patients with Coronary Artery Disease and Hyperlipidemia and reduce late stent thrombosis
School: Marriotts Ridge High School
Grade: 9

Honorable Mention
Name: Miya Mese-Jones
Project Title: Changing Aortic Arch Geometry with Virtual Surgical Planning
School: Baltimore Polytechnic Institute
Grade: 12

3rd Place
Name: Maria Chen
Project Title: Developing 6-Gingerol and EGCG Loaded Liposomes to Target Triple Negative Breast Cancer
School: Baltimore Polytechnic Institute
Grade: 12

2nd Place
Name: Larry Djatang-Tankeu
Project Title: Rudi Presysion Robot Development of a Rudimentary Surgical Robotic Platform for Dissemination and Experimental Purposes
School: Reservoir High School
Grade: 12

1st Place
Name: Seam Jiang
Project Title: InfoSound: Converting Visual Data to Musical Audio Cues for Blind Navigation
School: Gilman School
Grade: 9

Morgan State University-Science-Mathematics-Engineering Fair 2024

OVERALL WINNERS

Name: Lavender Hall
Project Title: "Fin"-tastic Fish Efficacy of Nonsteroidal Aromatase Inhibitors on the Sex Differentiation and Gonadal Development of Female Zebrafish
School: Baltimore Polytechnic Institute
Grade: 12

and

Name: Sai Siddhish Chandra Sekaran
Project Title: Improving the Detection and Prevention of Credit Card Fraud with the Use of Artificial Intelligence
School: Centennial High School
Grade: 10

US Public Health Service 2024 Awards

Commissioned Officers Association of the United States Public Health Service

District of Columbia Metropolitan Area Branch

Meritorious Achievement Award

(Certificate and US Public Health Service Medallion)

Name: Camille Coffey
Project Title: Exploring Lipoprotein De-fish-encies As a Result of Genetic Mutations
School: Baltimore Polytechnic Institute
Grade: 12

Name: Victoria Weinig
Project Title: My Robot Willie
School: Mount Airy Christian Academy
Grade: 8

Name: Lavender Hall
Project Title: "Fin"-tastic Fish Efficacy of Nonsteroidal Aromatase Inhibitors on the Sex Differentiation and Gonadal Development of Female Zebrafish
School: Baltimore Polytechnic Institute
Grade: 12

Name: Dhruv Veda
Project Title: Investigating the Potential of Phytoncide as an Epigenetic Regulator for the Snowball Effect at the Center of the Opioid Crisis
School: Centennial High School
Grade: 10

Name: Tristan Tyson Robinson
Project Title: How to turn a potato into a battery
School: Thomas Jefferson Elementary/Middle School
Grade: 7

Name: Xilin Wei
Project Title: A causal relationship between exercise and depression
School: Marriotts Ridge High School
Grade: 10

Distinguished Achievement Award – Biological Science

(Certificate and US Public Health Service Medallion)

3rd Place
Name: Jackson Dungee
Project Title: The Zophobas Morio: A Promising Solution to the Plastic Crisis
School: Baltimore Polytechnic Institute
Grade: 12

2nd Place
Name: Vishnu Kannan
Project Title: Learning the Language of Viral Variants: Designing Robust Vaccines against Diverse Variants with Protein Language Models
School: River Hill High School
Grade: 10

1st Place
Name: Stephenie Providence
Project Title: Engineering Improved Light-controlled Dimerization Systems to Investigate Cell Migration
School: Baltimore Polytechnic Institute
Grade: 12

Distinguished Achievement Award – Engineering

(Certificate and US Public Health Service Medallion)

3rd Place
Name: Kaitlyn Murphy
Project Title: No Sweat!
School: Mount Airy Christian Academy
Grade: 8

2nd Place
Name: Brayden Parks
Project Title: Oobleck Armor
School: Mount Airy Christian Academy
Grade: 8

1st Place
Name: Ayan Kabaria
Project Title: Integrated device for early detection of subtalar pronation using grid array sensors
School: Clarksville Middle School
Grade: 7

Defense Centers for Public Health – Aberdeen (DCPH-A) Awards

Award of Merit for Outstanding STEM Project

Biological Science

Name: Lavender Hall
Project Title: "Fin"-tastic Fish Efficacy of Nonsteroidal Aromatase Inhibitors on the Sex Differentiation and Gonadal Development of Female Zebrafish
School: Baltimore Polytechnic Institute
Grade: 12

Name: Xilin Wei
Project Title: A causal relationship between exercise and depression
School: Marriotts Ridge High School
Grade: 10

Name: Jackson Dungee
Project Title: The Zophobas Morio: A Promising Solution to the Plastic Crisis
School: Baltimore Polytechnic Institute
Grade: 12

Engineering

Name: Ayan Kabaria
Project Title: Integrated device for early detection of subtalar pronation using grid array sensors
School: Clarksville Middle School
Grade: 7

Name: Kaitlyn Murphy
Project Title: No Sweat!
School: Mount Airy Christian Academy

Physical Science

Name: Aaliyah Cole
Project Title: Comparing Electrolytes in Sports Drinks and Orange Juice
School: The Empowerment Academy
Grade: 8

Name: Peighton Washington
Project Title: Avid for Acid
School: Cross Country Elementary/Middle School
Grade: 6

Mathematics

Name: Albert Tang
Project Title: Real-time Body Movement Tracking of Athletes via a CNN-Based Approach
School: Marriotts Ridge High School
Grade: 9

Earth and Environmental Science

Name: Donald Queen
Project Title: Solar energy and hydropower
School: Thomas Jefferson Elementary/Middle School
Grade: 8

Name: Freya Sherwood
Project Title: Baltimore Water Quality
School: Mount Royal Middle School
Grade: 6

Name: Kei Mese-Jones
Project Title: Reconstructing Earth's Past: Assessing the Impact of Dolomitization on Upper Ediacaran Carbonates
School: Baltimore Polytechnic Institute
Grade: 12

Name: Maya Molina
Project Title: Investigating plant-plant interactions under drought for two grassland species
School: Baltimore Polytechnic Institute
Grade: 12

Name: Nico Singh
Project Title: The Effectiveness of Four Different Filtration Methods
School: Mount Royal Elementary/Middle School
Grade: 8

Name: Tom Bacon
Project Title: Banaue Rice Terraces Water Flow by Angle
School: Home Schooled
Grade: 6

Team Projects

Name: Vani Sharma
Project Title: Captone Project
School: Roland Park Elementary Middle School
Grade: 7

Name: Madison Vanderable
Project Title: Captone Project
School: Roland Park Elementary Middle School
Grade: 7

Name: Pratishtha Devkota
Project Title: Captone Project
School: Roland Park Elementary Middle School
Grade: 7

Name: Tsega Meressa
Project Title: Go With the Flow
School: Roland Park Elementary Middle School
Grade: 7

Name: Vee George
Project Title: Go With the Flow
School: Roland Park Elementary Middle School
Grade: 7

Special Award 2024

Society of Women Engineers - Baltimore Washington Section (SWE-BWS)

Outstanding Engineer

Name: Zoe Quiroga
Project Title: Boats n' Floats
School: Mount Royal Elementary/Middle School
Grade: 6

Name: Abigail Miller
Project Title: FrostScreen Physical Ad-Blocker
School: Mount Airy Christian Academy
Grade:8

Name: Shawney Dove
Project Title: Which chip is the most acidic.
School: Thomas Jefferson Elementary Middle School
Grade: 7

Name: Kaitlyn Murphy
Project Title: No Sweat!
School: Mount Airy Christian Academy
Grade: 8

Name: Nico Singh
Project Title: The Effectiveness of Four Different Filtration Methods
School: Mount Royal Elementary/Middle School
Grade: 8

Name: Freya Sherwood
Project Title: Baltimore Water Quality
School: Mount Royal Elementary/Middle School
Grade: 6

Name: Rylee Oliver
Project Title: Killer Rain
School: Cross Country Elementary/Middle School
Grade:6

Name: Jamaiya Brown
Project Title: How Clean Is Fruit Really?
School: Hamilton Elementary/Middle School
Grade: 8

Name: Aminata Bah
Project Title: Traffic Gloves
School: Thomas Jefferson Elementary/Middle School
Grade: 8

Promising Engineer

Name: Shamir Bennett
Project Title: Making A Potato into a Battery
School: Empowerment Academy
Grade: 7

Name: Penelope Nash-Papppalardo
Project Title: Bias in Generative AI
School: Roland Park Elementary Middle School
Grade: 6

Name: Aaliyah Cole
Project Title: Comparing Electrolytes in Sports Drinks and Orange Juice
School: The Empowerment Academy
Grade: 8

Name: Victoria Weinig
Project Title: My Robot Willie
School: Mount Airy Christian Academy
Grade: 8

Name: Autumn Davis
Team Project
Project Title: Which Air Freshener Works Best?
School: Hazelwood Elementary Middle School
Grade: 7

Name: Abla Allagen
Team Project
Project Title: Which Air Freshener Works Best?
School: Hazelwood Elementary Middle School
Grade: 7

Name: Alexandra Washington
Project Title: From Trash to Gas: Biomass
School: Roland Park Elementary Middle School
Grade: 6

Name: Keyla Hernandez
Project Title: Wavelength
School: James McHenry Elementary /Middle School
Grade: 6

Name: Lily Willis
Project Title: The Wheel Deal How the Size of a Vehicle's Wheels Affect its Speed
School: Hamilton Elementary/Middle School
Grade: 8

Name: Ja'Nae' Thomas
Project Title: Pimlico Elementary Middle School
School: Pimlico Elementary Middle School
Grade: 7

Name: Samantha Lewis
Project Title: Smell Test Experiment Using Various Scented Waxes
School: The Empowerment Academy
Grade: 7