

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

OVERALL WINNERS

Name: Jolee Xian

Project Title: Formulation-Dependent Preservation of Lactase Activity Under Simulated
Gastrointestinal Conditions

School: Bryn Mawr School

Grade: 10

Name: Caleb Son

Project Title: Printable Biodegradable Conductive Nanocomposites for Sustainable Electronic
Applications

School: Mount Hebron High School

Grade: 11

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Physical Science

Honorable Mention

Name: Noah Carter

Project Title: How SMBH Growth Affects the Host Galaxy

School: Baltimore Polytechnic Institute

Grade: 12

Honorable Mention

Name: Abdulla Ubaydullaev

Project Title: Drag Forces on Wet-Flowable Substrates

School: Baltimore Polytechnic Institute

Grade: 12

3rd Place

Name: Jerome Brown

Project Title: Are Local Galaxies Cooling the Cosmic Microwave Background?

School: Baltimore Polytechnic Institute

Grade: 12

2nd Place

Name: Thomas Lapp

Project Title: Modifying the Acylation Selectivity of Erythromycin With Metal Binding

School: Baltimore Polytechnic Institute

Grade: 12

1st Place

Name: Caleb Son

Project Title: Printable Biodegradable Conductive Nanocomposites for Sustainable Electronic Applications

School: Mount Hebron High School

Grade: 11

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Biological Science

Honorable Mention

Name: Laila Sheikh

Project Title: Stress After Preeclampsia: A Hidden Risk for Persistent Postpartum Hypertension

School: McDonogh School

Grade: 11

Honorable Mention

Name: Sanchir Molom-Ochir

Project Title: Investigating Outer-Membrane Protease OmpT as a Mechanism of DNaseI Anti-Biofilm Therapy Failure in E. coli

School: Centennial High School

Grade: 11

Honorable Mention

Name: Dhruv Veda

Project Title: Temporally divergent activation of NRF2-driven oxidative, mitochondrial and apoptotic stress pathways in the frontal cortex following blast-induced traumatic brain injury in ferrets

School: Centennial High School

Grade: 12

Honorable Mention

Name: Ria Bansal

Project Title: Designing an Artificial Intelligence/Machine Learning Decision Tree to Predict Unsuccessful Colonoscopy and to Identify Patients who need "Rescue Prep"

School: The Bryn Mawr School

Grade: 9

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Biological Science

3rd Place

Name: Rowah Abdelghani

Project Title: Structural studies of Enterovirus A71 negative sense strand 3' cloverleaf associated with positive sense RNA synthesis

School: Applications and Research LAB (ARL) High School

Grade: 11

2nd Place

Name: Sreekar Nimmagadda

Project Title: Function-First Multimodal Protein Design. A novel de novo Framework Using FILM-Augmented Sequence-Structure Modeling

School: River Hill High School

Grade: 9

1st Place

Name: Jolee Xian

Project Title: Formulation-Dependent Preservation of Lactase Activity Under Simulated Gastrointestinal Conditions

School: Bryn Mawr School

Grade: 10

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Earth and Environmental Science

2nd Place

Name: Ananya Kumbhare

Project Title: VOCast. Real-Time TVOC Mapping for Localized Air Quality Monitoring & Forecasting

School: River Hill High School

Grade: 11

1st Place

Name: Maelle Girard-Tsuru

Project Title: Diversity of shell-forming mechanisms across the Tonian and Cryogenian

School: Baltimore Polytechnic Institute

Grade: 12

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Mathematics and Computer Science

Honorable Mention

Name: Josiah Wheeler

Project Title: Staying in the Loop. A New Age of Parkinson's Care Using Machine Learning in Patient Treatment

School: Atholton High School

Grade: 11

Honorable Mention

Name: Solenyi Onwueme

Project Title: Constructing a Cross-Domain Dataset to Enable Machine Learning-Driven Tissue Engineering Scaffold Optimization

School: Atholton High School

Grade: 11

Honorable Mention

Name: Arjun Agnihothram

Project Title: Viro-Plex: AI Driven Assessment of Pandemic Potential in Bat Sarbecoviruses
Graph Neural Network Based Assessment of Pandemic Potential and Zoonotic Spillover Risk in
Bat Sarbecoviruses for Early Pandemic Preparedness

School: Marriotts Ridge High School

Grade: 9

3rd Place

Name: Albert Tang

Project Title: NeuroWise: A Multi-Agent LLM "Glass-Box" System for Practicing Double-Empathy Communication with Autistic Partners

School: Marriotts Ridge High School

Grade: 11

2nd Place

Name: Daniel Ahn

Project Title: Morphing the perspective: Stability of Morphing Wings. Comparing PID and MFC
Controllers during Wing Skewing

School: River Hill High School

Grade: 10

Morgan State University-Science-Mathematics-Engineering Fair 2026

High School Winners

Mathematics and Computer Science

1st Place

Name: Bhavya Reddy

Project: Chronic Subdural Hematoma Segmentation: A Dedicated Model to Overcome the
Limitation of the Acute Hemorrhage Model Across Chronic Subdural Hematoma Subtypes and
Density Variations

School: McDonogh School

Grade: 11

Morgan State University Science-Mathematics-Engineering Fair 2026

High School Winners

Engineering

Honorable Mention

Name: Braylon Anderson
Project Title: Soft Robot Catheter Stabilization for Endovascular Surgery
School: Baltimore Polytechnic Institute
Grade: 12

Honorable Mention

Name: Marshall Civin
Project Title: Understanding the Reaction Pathway in Cu-Ti Nanolaminates Using Differential Scanning Calorimetry
School: Baltimore Polytechnic Institute
Grade: 12

Honorable Mention

Name: Nikash Kumar
Project Title: An Autonomous In-Situ Soil Rover for Soil Contamination Mapping with Satellite Integration
School: Atholton High School
Grade: 11

Honorable Mention

Name: Sean Jiang
Project Title: Infosound A Portable Assistive Navigation System for the Blind by Integrating Depth Sensing, Deep-Learning Models, and Algebraic Audio Mapping
School: Gilman School
Grade: 11

3rd Place

Name: Ayan Kabaria
Project Title: Multi-Modal Gait Analysis: Integrated Grid Array Pressure Insole and IMU Sensor for Algorithmic Detection of Neurological Degeneration and Musculoskeletal Misalignment
School: Atholton High School
Grade: 11

2nd Place

Name: Ming Sun
Project Title: Using 3D Printing to Create Hybrid Mouthpieces to Bridge Brass Playing
School: Centennial High School
Grade: 11

Morgan State University Science-Mathematics-Engineering Fair 2026

High School Winners

Engineering

1st Place

Name: Catelyn Dao

Project Title: Optimizing Personalized Word Prediction for Assistive Communication Systems

School: Thomas Jefferson High School

Grade: 11

Morgan State University Science-Mathematics-Engineering Fair 2026

High School Winners

Teams

Honorable Mention

Name: Mikiyas Getachew, Dhilan Patel and Amani Andemariam
Project Title: Development of a Universal IMU-Based Head Impact Monitoring System. Real-Time Concussion Detection in Sports and Improved Head Trauma diagnosis
School: Reservoir High School and Atholton High School
Grade: 11

Honorable Mention

Name: Shaurya Mallampati, Ankit Mohanty and Rudra Jhavar
Project Title: AURORA
School: Marriotts Ridge High School
Grade: 11

3rd Place

Name: Katherine Johnson Carey and Jane Weiss
Project Title: Comparison of calcofluor staining protocols to identify motile and coccoid stages of Symbiodiniaceae
School: Baltimore Polytechnic Institute
Grade: 11

2nd Place

Name: Edward Maximus Devinney and Jay Cole Devinney
Project Title: DrownAlert.ai: the Future of Reducing Drowning. A Computer-Vision Powered Drowning Detection System
School: Winston Churchill High School
Grades: 11 and 10

1st Place

Name: Shiven Trambadia, Suhan Chintalapati
Project Title: Virtual Biopsy: A Novel Physics-Informed Neural Network for the Non-Invasive Reconstruction of Tumor Tissue Permeability
School: Howard High School
Grade: 10