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2025 SCHOLARS

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ALABAMA

Auburn

Auburn High School
Bao, Will, 17
Machine Learning-Driven Discovery of Novel Acoustic Metamaterials for Highly Effective Noise Pollution Mitigation

ARIZONA

Chandler

Hamilton High School
Shroff, Prisha, 18
Explainable AI: An Interpretable-by-Design Algorithm Based on an Information Pursuit-Orthogonal Matching Pursuit Querier and a Concept Question-Answering Network Answerer That Generates Explanations for Image Classification Tasks

CALIFORNIA

Anaheim

Fairmont Preparatory Academy
Shvartsman, Ava Nadia, 18
Analysis of PFOS and PFOA With Varying Salinity and Electrical Fields Using Classical Molecular Dynamics Simulations

Campbell

Westmont High School
Ranjith, Yash, 18
Modeling Pollution Spread With Obstructions Using Physics-Informed Neural Networks

Claremont

Webb School Of California
Zhu, Zirui, 17
Highly Flexible Ankle Joint Lower Limb Exoskeleton for Hemiplegic Patients: Integrating Assistive and Rehabilitation Functions

Cupertino

Homestead High School
Giri, Adithya, 18
ConvFormer: Introducing Inductive Biases To Improve the Performance of Transformers on Small Datasets

Homestead High School
Yuan, Samuel, 17
Diffusion Models for Conditional Generation of Hypothetical New Families of Superconductors

Monta Vista High School
Doshi, Aaryan, 18
Discovery of Properties of Atmospheric Aerosols for Targeted Climate Control via Variational Autoencoders

Monta Vista High School
Shah, Praneel, 18
Controlled Nutrient Delivery With Chitosan-Alginate Nanoparticles To Promote Seed Germination and Stress Resilience in *Glycine max*

Dublin

Dublin High School
Chamberlain, Sonya, 18
Whole Exome Sequencing Analysis Highlights the Need for Routine Genetic Screening of Type 1 Diabetes Patients for Monogenic Diabetes

Dublin High School
Gupta, Ishaan, 17
SharkHI: A Novel Pipeline for Health Index Calculation of *Carcharodon carcharias*

Dublin High School
Magesh, Sajeev, 18
IntelliTill AI — Combating Climate Change Through AI-Driven Automated Tilling and Fertilizer Optimization

Elk Grove

Cosumnes Oaks High School
Sun, Mengnan, 18
Sustainable Hydrogel Beads for Removal and Recovery of Phosphate From Wastewater

Folsom

Vista del Lago High School
Vemulapalli, Sindhu, 17
Discovery of Small Molecule TLR4 Inhibitors as Potential Therapy for Alzheimer's Disease

Fremont

BASIS Independent Fremont
Kiran, Aditi, 17
The Effect of Copper Aluminum Bimetallic Metal Organic Framework-Based Electrode on the Energy Stored in a Supercapacitor

Mission San Jose High School
Nair, Meenakshi, 17
Iterative Informal Settlement Detection and Mapping on VHR Satellite Imagery

Fresno

Clovis North High School
Estrada, Pauline Victoria Allasas, 18
Rapid Detection of Acetolactate Synthetase Inhibitor Resistant Weeds Utilizing Novel Full-Spectrum Imaging and a Bayesian-Optimized Hyperparameter-Tuned Convolutional Neural Network (CNN): A Two-Year Trial

Clovis North High School
Mehrotra-Varma, Shiv, 18
Patients With Type 2 Diabetes Are at Elevated Risk of Developing New Hypertension and Chronic Kidney Disease Following COVID-19 Infections

Irvine

University High School
Fang, Victoria, 18
A Novel AI- and Robotics-Backed Smart Sign Language Interpreter (ASLBot), Eliminating the Barriers of Communication for Deaf and Hard of Hearing Individuals

University High School
Hexun, Miles, 18
Engineering of Formate Dehydrogenase for Recycling of Nicotinamide Mononucleotide, a Noncanonical Redox Cofactor

University High School
Li, Victor, 18
Allo-DiffHopping: A Computational Approach for Allosteric Scaffold Hopping Using Conditional E(3) Equivariant Diffusion Model in Drug Design

Monterey

Santa Catalina School
Tseng, Angelina, 17
AI-Powered Magnetic Inspection Robot for Advanced Structural Health Monitoring of Ferromagnetic Structures

North Hollywood

North Hollywood High School
Meka, Hriday, 17
Selective NF-κB Inhibition in Acute Myeloid Leukemia Using a Novel Decoy
Oligonucleotide: Evaluating Monotherapeutic and Polytherapeutic Approaches

Palo Alto

Henry M. Gunn High School
Su, Stella, 18
Combining Single-Cell GPT and Gene Network Modeling To Infer the Roles of Critical
Regulators of Cardiac Differentiation

Palo Alto High School
Konduri, Samhita, 18
A Comprehensive Analysis of the Determinants Influencing Sexual Assault Crime Rates
Across the United States Using Large Language Models, Machine Learning and Statistics

Palos Verdes Peninsula

Chadwick School
Yoon, Ashton, 17
Development of a Next-Generation 3D Printed Cranial Remodeling Helmet With Memory
Function and Integrated Pressure Sensors for Correcting Head Deformities

Pasadena

Pasadena High School
Paz, Matteo, 18
The VarWISE All-Sky Infrared Variability Survey — Classification of 1.9 Million
Astronomical Objects Into 10 Classes

Polytechnic School
Kratter, Theodore, 17
Novel Food Safety Test for the Rapid and Point-of-Care Detection of Peanut Allergens:
Improving Quality of Life for Those With Severe Food Allergies

Piedmont

Piedmont High School
Tang, Aliana, 17
Network Method for Building a Sample-Specific Glycan Database for N-Linked
Glycosylation From MS/MS Data

Pleasanton

Amador Valley High School
Deshpande, Aditi Nikhil, 17
Assessing the Role of Matrix Metalloproteinases and Classical Complement System
in Pancreatic Ductal Adenocarcinoma Using Bulk RNA Analysis in Acinar-to-Ductal
Metaplasia

San Diego

Canyon Crest Academy
Gao, Sarah Rumei, 18
From Trash to Treasure: Fighting Desertification With Sustainable Soil-Amending
Hydrogels Synthesized From Food Waste

Canyon Crest Academy
Madhukara, Nandana, 18
A Novel Approach to Modeling the Effect of Protein Crowding on Cellular Membrane
Shape

Del Norte High School
Zhang, Jason, 17
Noninvasive Multi-Cancer Detection Using Blood-Based Cell-Free MicroRNAs

Westview School
Chen, Trevor, 17
Enabling Ultra-Broadband High-Efficiency Gratings for Single-Cycle Infrared Lasers

San Francisco

Proof School
Lipkovitz, Rivka, 18
The Differential Effects of Strict Voter Identification Laws on Election Type and Adoption Timing

San Jose

BASIS Independent Silicon Valley
Das, Rohan, 17
The Warped Tensor Product of Frobenius Algebras

Lynbrook High School
Chandrasekhar, Vrishank, 17
Discovery of a Novel Digital Biomarker for Early Pan-Cancer Survival and Recurrence Prediction via Free-Text Clinical Narratives

Piedmont Hills High School
Wei, Jackie, 18
Optimizing Transformer-Based Models for Radiation Estimation at High Energy Accelerator Facility

The Harker School
Liang, Andrew Yuxuan, 17
An Intelligent Bee Health Assessment System Using a Cross Attention-Based Multimodal Neural Network for Visual and Audio Signals

The Harker School
Thvar, Varun, 17
Predicting Childhood Trauma With Functional Connectivity fMRI Imaging Using Machine Learning and Analyzing Psychopathological Outcomes

The Harker School
Vailaya, Aarush, 17
Adjacent Cycle-Chains Are e-positive

Valley Christian High School
Zou, Minghao, 18
A New Particle Pusher With Hadronic Interactions for Modeling Multimessenger Emission From Compact Objects

San Marcos

High Tech High North County
Brown, Logan Mars, 18
Closed-Loop Electrochemical CNC Machining for the Democratization of Metal Fabrication

San Marino

San Marino High School
Lin, Justin Yi-Ting, 17
Effects of Alveolar Bone Grafts vs. Orthognathic Surgery on Cleft Palate Speech Nasalance: A Meta-Analysis

San Mateo

The Nueva School
Rosario, Charlotte Ava, 17
Examining Brain Structure in Relation to Mood and Anxiety in Pubertal Transgender and Cisgender Youth

San Ramon   **Dougherty Valley High School**
Qiang, Dongmei, 17
Predicting Cognitive Progression and Quantifying Clinical Factor Effects: A Temporal
Dual-Model Pipeline and Cluster-Based Analysis

Dougherty Valley High School
Zhang, Elisa, 17
Patching Multi-Location Software Bugs: A Multi-Agent Large Language Model Framework
for Automated Program Repair

Saratoga   **Saratoga High School**
Jia, Leonardo, 17
Machine Learning Models for Regional Diabetes Prevalence Prediction Using
Socioeconomic and Lifestyle Factors With Applications in the Diabetes Economic
Ecosystem

Saratoga High School
Mao, Skyler, 17
Relating Wave and Particle Statistics in Pilot-Wave Hydrodynamics

Stanford   **Stanford University Online High School**
Smith, Joe Francisco, 17
Astrometric Binary Classification via Artificial Neural Networks

Thousand Oaks   **Thousand Oaks High School**
Chung, Benjamin Art, 18
The Synergistic Effect of Omega-3 Fatty Acids (DHA and EPA) and Zinc Picolinate
on Traumatic Brain Injury in *Galleria mellonella*

COLORADO

Greenwood Village   **Cherry Creek High School**
Serdar, Ersel Ozan, 17
A Novel Approach To Steer Chemical Rockets Using Electric Fields

Longmont   **Niwot High School**
Smith, Malcolm, 18
Amplifying the Kinematics of Origami Mechanisms With Spring Joints

Nederland   **Nederland Middle And Senior High School**
Pelkum Donahue, Keahi, 18
Forecasting Solar Flares With Transformer Networks

CONNECTICUT

Greenwich   **Greenwich High School**
Malkin, Ashley, 18
Development and *in vitro* Verification of a Polymersome for Blood-Brain Barrier (BBB)
Transport Through a Novel Machine Learning Model

Lakeville   **Hotchkiss School**
Xie, Weian Andrew, 18
Worst-Case Error Bounds for Online Learning of Smooth Functions

Wallingford   **Choate Rosemary Hall**
Liu, Joyce, 17
Calculating the Tip of the Red Giant Branch (TRGB) Distance to an Isolated
Dwarf Galaxy: R-127-1

DC

Washington

Sidwell Friends School
Nevil, Ananeah, 17
Illuminating the Regulation of Cell-to-Cell Variability in NFκB Signaling Using Fluorescent Proteins and CRISPR

FLORIDA

Bradenton

Lakewood Ranch High School
Shea, Addison Grace, 18
Bowhead Whale Migration Amid Changing Circulation Patterns in the Beaufort Gyre

Fort Lauderdale

Pine Crest School
Dobzinski, Netta, 17
Neuronal and Genetic Basis of an Attention-Like State in *Drosophila*

Pine Crest School
Sachdeva, Annika, 18
Novel Approach to Early Pancreatic Cancer Detection Using Weighted Normalization in a DINOv2-Inspired Visual Transformer

Pine Crest School
Wakefield, William, 18
Variational Autoencoder Latent Space as a Robust Clinical Classification Tool for Neurodegenerative Diseases

Gainesville

Frazer School
Rong, Sophia, 17
The Role of Cell-to-Cell Transmission in HIV Infection: Insights From a Mathematical Modeling Approach

Miami

Ransom Everglades Upper School
Thomas, Ethan, 17
ConFormer: A Novel Collection of Deep Learning Models To Assist Cardiologists in the Assessment of Cardiac Function

Orlando

Orlando Science Middle/High School
Manaswi, Atreya, 19
Year 5: Engineering a Novel IoT Trapping System With a Multiple Linear Regression Model Toward Eco-Friendly, High-Efficacy and Low-Cost Honey Bee Pest Treatment and Management

Plantation

American Heritage School
Bora, Anik, 18
Creating a Novel Drought Prediction Model Using Convolutional Neural Networks

American Heritage School
Colarte Delgado, Emma Marie, 17
The Effect of Varying Time Periods of the Intermittent Metabolic Switching (IMS) Diet on the Cognitive and Behavioral Abilities of Mutant *Drosophila melanogaster*, Leading to Brief Synaptic Neuroplasticity

American Heritage School
Mathew, Calvin Thomas, 18
3D Printing Personalized Knee Implants: Novel Computational Geometric Models for Stem Cell Regeneration in Meniscus Tears

GEORGIA

Athens
Cedar Shoals High School
Caillault, Sebastian, 18
Ropelength Provides New Lower Bounds for the Pearl Number of a Knot

Atlanta
Midtown High School
Laurens, Remy, 18
The Application of Machine Learning in the Prediction of Inhibitor Development in Hemophilia A

Norcross
Paul Duke STEM High School
Au, Chloe C., 17
The Role of *Myc* in Tunicate Central Nervous System Development

HAWAII

Honolulu
Iolani School
Lee, Logan, 18
Utilizing Microbiome Transplants To Improve Landscape-Scale Mosquito Suppression

Iolani School
Sugimoto, Elle, 18
Developing a Framework for Indigenous Population Health: A Machine Learning Principles Approach to Assessing the Impact of Zoning and Neighborhood Influence on Cardiometabolic Health and Gut Microbiome of Native Hawaiian Pacific Islanders on Oahu

ILLINOIS

Aurora
Illinois Mathematics and Science Academy
Dulam, Shrikar, 18
Analyzing Quantum Exceptional Point Invisibility for Experimentally Realizable Triple-Gaussian Potentials

Lincolnshire
Adlai E. Stevenson High School
Tiwari, Aarushi, 17
Novel Two-Stage Data Filtration System for Fast and Energy-Efficient Big Data Processing Using Optical Computing

Adlai E. Stevenson High School
Zhang, Qi, 17
Mitigate the Global Crisis of Colorectal Cancer: Identify Metagenomic Biomarkers and Develop a Machine Learning Model To Assess Colorectal Cancer Risk

Oak Park
Oak Park and River Forest High School
Hammersley, Amelia, 17
Neuroprotective Effects of a Combination of Natural Compounds on Acute Traumatic Brain Injury in a *Drosophila melanogaster* Model as a Potential Novel Pharmaceutical

Urbana
University High School
Tang, Bruce, 18
MAPLE-GNN: Explainable Protein-Protein Interaction Prediction Using Multi-Head Attention, Protein Language Model-Enhanced Graph Neural Networks

INDIANA

Culver
The Culver Academies
Zhou, Zitong, 18
Self-Shape Sensing Soft Pneumatic Grasper Based on Piecewise Liquid Metal Sensor and Piecewise Variational Curvature Model

Bloomington
Bloomington High School South
Borneman, Sean Chingiz, 16
Machine Learning-Based Identification of Cognitive Engagement States in EEG Data Driven by Visual Stimulation

KENTUCKY

Green
The Carol Martin Gatton Academy of Mathematics and Science in Kentucky Bowling
Ashley, Asa, 17
Derived Magnetite on Nickel Foam as an Electrocatalyst for Oxygen Evolution

Lexington
Paul Laurence Dunbar High School
Jones, Luke, 17
Role of Inflammation and Endothelial Injury in Neonatal Intraventricular Hemorrhages

Louisville
duPont Manual Magnet High School
Choi, Jilly Abraham, 17
Design of a Low-Cost, Low Inertia, Backdrivable Upper-Body Manipulator for Use in Humanoid Applications

LOUISIANA

Baton Rouge
Baton Rouge Magnet High School
Chen, Emily, 17
Studying the Effects of Distortion on the Hydrodynamics in the Lower Mississippi River Physical Model

Shreveport
Caddo Parish Magnet High School
Sultana, Arisha, 18
Eosinophil-Rich Mice as Novel Investigative Models for Endometriosis and Adenomyosis

MARYLAND

Ellicott City
Centennial High School
Meister, Martin, 18
Quantifying Seagrass Density Using Sentinel-2 Satellite Data and Machine Learning

Poolesville
Poolesville High School
Yung, Bryan, 18
Feature, Brain Region and Frequency Band Contributions in EEG Classification of Frontotemporal Dementia

Rockville
Richard Montgomery High School
Aubry-Romero, Naima, 17
Modeling, Analysis and Prediction of COVID-19 Dynamics With Interacting Subpopulations and Implicit Behavior Using Physics-Informed Neural Networks

Richard Montgomery High School
Han, Iden, 17
Using the Atlas Pressure Device To Study Roles of Piezo and YAP in the Nephrocyte Pressure Response

Silver Spring

Montgomery Blair High School
Ling, Yunyi, 18
Evolution and Costs of Streptomycin Resistance in *Salmonella*

Montgomery Blair High School
Youm, Jason, 18
Average Rényi Entanglement Entropy in Gaussian Boson Sampling

MASSACHUSETTS

Acton

Acton-Boxborough Regional High School
Nirgudkar, Siddharth, 17
Contextualized Transfer Learning: Transforming Heterogeneity Into Predictive Power With Generative Latent Structures in Resource-Limited Settings

Acton-Boxborough Regional High School
Pal, Anushri, 18
Effect of Atomic Size and Stereochemistry of Halogenated Hydantoin Derivatives on Main Protease Inhibition Activities of SARS-CoV-2: Rationalization Through Computational Studies

Acton-Boxborough Regional High School
Sivaraman, Ram, 17
HM-Detect: A Murmur Detection and Classification Methodology Using a Novel C²-LSTM Architecture for Multi-Modal Signals

Andover

Phillips Academy
Zhao, Angeline, 18
Finding Belonging in the Big City: Understanding Communities-of-Interest in NYC Redistricting via Monte Carlo Simulations

Billerica

Billerica Memorial High School
Ganeshkumar, Tarun, 17
Fundamental Study of the Interactions of Electric Fields and Polystyrene Beads for Enabling Pumpless Particle Handling Within Microfluidics Devices

Deerfield

Deerfield Academy
Xie, Evan, 18
Fine-Tuning Dual Single-Atom Metal Sites on Graphene for Enhanced Oxygen Reduction Reaction Activity

Lexington

Lexington High School
Ekanathan, Shreyas, 18
A Fully Adaptive Radau Method for the Efficient Solution of Stiff Ordinary Differential Equations at Low Tolerances

Lexington High School
Jang, Jiwu, 18
Vertex Functions of Type D Nakajima Quiver Varieties

Lexington High School
Ouyang, Larine, 18
A Noise-Resilient and Energy-Efficient AI Model for EEG-Based Emotion Recognition Induced by Multimedia Stimuli

Manchester   **Manchester Essex Regional High School**
Cummins, Jack, 17
In-Hospital Mortality Prediction for ICU Patients With Acute Ischemic Stroke: A Machine Learning Approach

Newton Centre   **Newton South High School**
Lee, Husang, 18
Exosomes From a Novel *Leuconostoc mesenteroides* Subsp. Isolated From *Camellia japonica*: Systematically Targeting MAPK and Akt Pathways and Their Submechanisms To Prevent Melanomagenesis

Sharon   **Sharon High School**
Sarmah, Agastya, 18
Demographic and Genetic Insights Into *ARID1A* Mutations in Hepatocellular Carcinoma: Implications for Prognosis and Treatment

Springfield   **Pope Francis Preparatory School**
Hanechak, Eli, 18
Solving the Plastic Problem: Developing a Microbial System for the Bioremediation of Plastic Waste Into Drinkable Water and Fertilizer Material

Sudbury   **Lincoln-Sudbury Regional High School**
Su, Michelle, 18
An Optimized Binning and Probabilistic Slice-Sharing Technique for Motion Correction in Abdominal DW-MRI

Worcester   **Massachusetts Academy of Math & Science**
Nagireddy, Isha, 18
OptiCare: A Mobile Application Diagnosing Ocular Diseases Through Novel Point of Care Methods Utilizing Machine Learning Technology

MICHIGAN

Beverly Hills   **Detroit Country Day School**
Jiang, Henry, 17
The Axial Electric Potential and Length of a Torus Knot

Bloomfield Hills   **Cranbrook Kingswood School**
Saravanan, Vineet, 18
Brain Aneurysm Segmentation and Analysis Using Convolutional Neural Networks and Computational Fluid Dynamics

Canton   **Plymouth-Canton High School**
Chaganti, Tesko, 17
The Secrets of Healthy Aging: The Semi-Automated Discovery of Novel and Natural Dietary PI3K Inhibitors With Senolytic Potential

Kalamazoo   **Kalamazoo Area Mathematics and Science Center**
Mishra, Aryaman, 17
American Sign Language Alphabet Translation to English Using Novel Hand Gesture Recognition

Northville   **Northville High School**
Zhang, Brian, 17
Elevating Visual Prompting in Transfer Learning via Pruned Model Ensembles: No Retrain, No Pain

Saginaw   **Saginaw Arts & Sciences Academy**
Haddad, Miriam, 18
Magnetizing Oil: A New Paradigm for Cleaning Up Aquatic Oil Spills

MINNESOTA

Minnetonka   **Minnetonka High School**
Clair, Tyler Alan, 18
Food Waste-Based Biocoagulants: A Novel Approach To Sustainably Remove Polystyrene Microplastics for Future Alternatives in Water Treatment

Saint Paul   **St. Paul Academy and Summit School**
Chen, Deling, 18
A Novel Electrocardiogram-Based Model for Prediction of Dementia — the Atherosclerosis Risk in Communities (ARIC) Study

NEVADA

Reno   **The Davidson Academy of Nevada**
Lin, Adrian, 17
LiDAR-Enhanced Augmented Reality Super Vision for Real-Time Hazard Detection in Pedestrian and Dynamic Work Environments

NEW HAMPSHIRE

Exeter   **Phillips Exeter Academy**
Zhang, Davido, 17
Lipschitz Optimal Transport Maps

NEW JERSEY

Cherry Hill   **Cherry Hill High School East**
Ling, Kaiyan, 18
Model Touch Pointing and Detect Parkinson's Disease via a Mobile Game

East Brunswick   **East Brunswick High School**
Lee, Allison, 17
MergeFinder: A Deep Learning Model for Galaxy Merger Identification

Hackensack   **Bergen County Academies**
Acikgoz, Esat, 17
Cyanobacteria: Limiting the Bad and Exploiting the Good To Conserve the Environment and Revolutionize Energy

Bergen County Academies
Franco de la Matta, Belen, 18
Gear-Based Topological Mechanical Metamaterials

Bergen County Academies
Huo, Carolyn, 18
Histone Acetyltransferase MOF and Its HAT Activity Are Essential To Mitigate Aberrant R-Loop Accumulation Induced by Cr(VI) Exposure

Bergen County Academies
Varia, Riyashi, 17
CORALE — Coral-Optimized Robotics for Autonomous Learning and Environmental Navigation

Bergen County Academies
Zelaya Alves, Isabella Maria, 18
Using Anti-Copper Drug Tetrathiomolybdate To Inhibit Triple-Negative Breast Cancer Angiogenesis

Lincroft

High Technology High School
Basineni, Suchit, 18
El Niño–Southern Oscillation and Atlantic Multi-Decadal Oscillation Impact on Hurricanes in the North Atlantic Basin

High Technology High School
Thoutam, Vishrut, 17
ProtDiff: Function-Conditioned Masked Diffusion Models for Robust Directed Protein Generation

Manahawkin

Marine Academy of Technology & Environmental Science
Abdelaal, Maya, 18
Assessing Airborne Bacteria Abundance in Sea Foam Aerosols

Martinsville

The Pingry School
Ho, Elbert, 18
SOLD: SELFIES-Based Objective-Driven Latent Diffusion

Millburn

Millburn High School
Ahuja, Neel, 17
Reducing Per- and Polyfluoroalkyl Substances (PFAS) Water Contamination With Mycorrhizal Hydroponics Plants

Millburn High School
Li, Benjamin, 18
MD-SA2: Multimodal, Depth-Aware Brain Tumor Segmentation in Sub-Saharan Populations

Princeton

Princeton High School
Gitai, Benjamin Murphy, 17
Computer Vision for Ankle Replacement Surgery

Princeton High School
Gutierrez Morales, Yurai, 20
How the Lion Becomes a Lamb: Transfer of Bacterial Symbionts From Ant Larvae to Vegetarian Spiders Through Selective Predation

Princeton High School
Lin, Amy, 17
Predicting Compound Melting Temperatures From Computationally Derived Properties Using Machine Learning

Princeton Junction

West Windsor-Plainsboro High School South
Wang, Kathie, 18
Predicting Suicidality in Youth Using Quantum and Classical Machine Learning via Support Vector Machines

NEW MEXICO

Albuquerque

Albuquerque Academy
Sankaran, Akilan, 17
From Walking to Tunneling: An Investigation of Generalized Pilot-Wave Dynamics

NEW YORK

Armonk
Byram Hills High School
Levy, Andrew, 18
Analyzing Extracellular Vesicles for Prediction of Head and Neck Squamous Cell Carcinoma Patient Immunotherapy Response

Bellmore
John F. Kennedy High School
Elliott, Gabriella, 17
The Use of Diagnostic Coding Processes in the Analysis of Verbal Behaviors To Enhance Patient-Provider Connection

John F. Kennedy High School
Prainito, Mark, 17
Behavioral Responses of *Mercenaria mercenaria* and *Crassostrea virginica* Larvae to Ocean Acidification and *Cochlodinium polykrikoides* Toxicity: A Novel Evaluation of the Efficacy of *Ulva* spp. in Mitigating Stressors Threatening Bivalve Larvae in Long Island Waters

John F. Kennedy High School
Shau, Joleen, 18
The Effect of Defocus on Contrast Detection and Its Implications for Myopia Development and Prevention

John F. Kennedy High School
Simon, Jayden, 17
A Comprehensive Analysis of Novel Microorganisms Utilizing Metagenomics To Determine the Effects of Plastic Polymer Types on Microbial Communities

John F. Kennedy High School
Tso, Mason, 17
Decoding Nonverbal Social Interactions Through Eye Movements With Soft Magnetic Skin and 3D Printed Magnetometer Glasses

Brentwood
Brentwood High School – Ross Center
Fairweather, Nica Katurah, 17
Evaluating the Impact of Temperature and Nitrate Levels on Byssal Thread Production and Filtration Efficiency in *Geukensia demissa* From a Long Island Salt Marsh

Bronx
Bronx High School of Science
Albert, Vimala Ruth Anne, 17
Would a Rose by Any Other Name Really Smell Just as Sweet?: The Effect of First and Last Name Fluencies on Candidate Perception

Bronx High School of Science
Chen, Connie, 17
A Novel Mathematical Framework for Crystal Structure Prediction

Bronx High School of Science
Coven, Myles, 17
Novel Regulation of Low-Density Lipoprotein Receptor (LDLR) by UBOX5

Bronx High School of Science
Gao, Benjamin, 17
Connecting the Tropics to Ice Ages: Exploring Geochemical Indicators in Sea Foraminifera To Reconstruct Paleoclimate Sea Surface Temperatures in the Western Pacific Warm Pool

Bronx High School of Science
Greenberg, Liza Juliet, 18
Making Order With Disorder: Specific Structural Roles of Conformationally and Chemically Heterogeneous Glycopeptides Within Mucin Proteins

Bronx High School of Science
Lin, Jayden, 17
Novel Interpretable Model for Urban Heat Island Forecasting and Addressing Climate Racism in Big Cities

Bronx High School of Science
Lin, Sidney, 17
Machine Learning for Identification of Fast Progressors of Infarct Growth in Early Window Acute Ischemic Strokes Without Perfusion Imaging

Bronx High School of Science
Loukaitis, Mary, 17
Quantifying MAB-3-Controlled Robustness in *Caenorhabditis elegans* Male Tail Morphogenesis

Bronx High School of Science
Manasse Cammerman, Joshua, 17
Phagocytosis of Reticulocytes by Splenic B Cells in Malaria-Infected Mice

Bronx High School of Science
Procaccino, Chris, 17
Breaking Barriers: Verifying Sterility of Germ-Free Humanized Mice

Bronx High School of Science
Raziel, Michael, 18
Decoding Denial: Using a Granger Causality Model To Examine the Impact of Climate Consensus Messaging on Climate Change Discourse in Online Platforms

Bronx High School of Science
Zhao, Miranda, 17
Extreme Weather Events Predicted by Novel Active Machine Learning Model With Deep Neural Operator

Horace Mann School
Wang, Ellen Luojia, 17
Deep Learning on a Novel Ising Model To Study Arctic Sea Ice Dynamics

Chappaqua

Horace Greeley High School
Jankovic, Sara Mae, 18
Toppling the Domino Effect: A Novel Approach to Predicting Systemic Banking Distress Using Interacting Networks Analysis

Horace Greeley High School
Morton, Nora, 17
Evaluation of the Performance of Wave Attenuation Devices (WADs) at a Coastal Marsh Shoreline Using a Smartphone-Based Wave Intensity Sensor (WILSON)

Horace Greeley High School
Zhang, Meadow, 17
Leveraging Lipid Nanoparticle Technology for the Targeted Delivery of mRNA to Germinal Center B Cells

City Park

Mineola High School Garden
Badoolah, Fatimah, 17
The Efficacy of Different Dosages of *M. charantia* and *A. indica* on Glucose Levels in *D. melanogaster*

Cold Spring Harbor **Cold Spring Harbor High School**
Lustig, Milan, 18
A Configurable Compiled Programming Language With Integrated Transpilation

Commack **Commack High School**
Chadha, Ishana, 17
Understanding Neuronal Migration in Brain Development: The Role of Oligophrenin1 in Modulating Radial Migration of Pyramidal Neurons by Interaction With Pacsin2

Dobbs Ferry **Dobbs Ferry High School**
Williams-Ameen, Lilianne, 17
The Next Generation: An Exploration of Youth Attitudes on Climate Change in Alaska and Northern Canada

East Amherst **Williamsville East High School**
Demirbas, Ahmet Yavuz, 17
From Words to Actions: A Comprehensive Approach to Identifying Incel Behavior on Reddit

Williamsville East High School
Li, Jonathan, 18
A Preclinical Study on WEE1 Inhibitors for Improving the Chemotherapy Response in Bladder Cancer

East Farmingville **Sachem High School**
Suleman, Ibrahim, 18
Biophotovoltaic System Utilizing Sphagnum Moss and *Citrobacter freundii*

East Setauket **Ward Melville High School**
Duong, Katie, 17
SARS-CoV-2 Infection Increases Long-Term Risk of Pneumonia in an Inner-City Population

Ward Melville High School
Liang, Daniel Dali, 17
Radiomic Feature Engineering for Automated Colorectal Polyp Classification Using Deep Learning Architectures

Ward Melville High School
Skinner, Sean Matthew, 18
Physics-Informed Machine Learning for Many-Objective Generative Design

Elmont **Elmont Memorial High School**
Ahmed, Aafia, 17
JAK2/STAT3 Signaling Pathway Mediates Methylmercury Toxicity in Mouse Astrocyte Neuronal C8-D1A Cell Line

Franklin Square **H. Frank Carey High School**
Osorio, Natalie, 17
Biophysical Investigations Into the Structure and Function of *Pseudomonas aeruginosa* Nitric Oxide Signaling System

Fresh Meadows **Saint Francis Preparatory School**
Valenciana, Juan, 17
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Garden City **Garden City High School**
Xiao, Amy, 17
Exploring Citrin as a Therapeutic Target for Cancer Treatment Through a Clinical, Pharmacologic and Metabolic Lens

Glen Head

North Shore High School
Ho, Kaitlin, 17
Magnesium Magic: The Rescue of the Parkinson's Model of *Drosophila melanogaster* With $MgCl_2$ Supplementation

North Shore High School
Weseley-Jones, Eli, 17
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Great Neck

John L. Miller Great Neck North High School
Ahdout, Johnathan, 17
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John L. Miller Great Neck North High School
Wen, Emma Lee, 17
AUM-302, A Novel Triple PIM/PI3K/mTOR Inhibitor, Offers Promising Potential in Reducing the Growth of Pancreatic Ductal Adenocarcinoma Spheroids and Organoids

William A. Shine Great Neck South High School
Gupta, Anant, 17
Assessing the Impact of Human Inhibition Factors on Wildfire Risk Prediction Using Deep Learning

William A. Shine Great Neck South High School
Liu, Tiffany, 18
Vulnerability of DNN Architectures to Inversion Attacks During Edge Computing and Collaborative Inference

William A. Shine Great Neck South High School
Sun, Sarah, 17
Cognitive, Socioeconomic and Institutional Impact on Entrepreneurial Intention in Latent Entrepreneurs: A Cross-Country Comparison

Harrison

Harrison High School
Potash, Reese Hailey, 17
Lack of School Engagement as a Mediator Between Adverse Childhood Experiences (ACEs) and Juvenile Offending

Hempstead

Sacred Heart Academy
Carotenuto, Emma Amalia, 17
The "Sunset Effect" Among Nursing Home and At-Home Patients in a Latinx Community

Sacred Heart Academy
Revill, Erica, 17
If Negative Coping Hurts, Why Doesn't Positive Coping Help? Caregiver Burden, Coping Strategies and State-Trait Anxiety Among Those Responsible for Individuals With Developmental Disabilities

Hewlett

George W. Hewlett High School
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Aptamer-Mediated Biosensing Using Self-Assembled DNA Nanomaterials

Jericho

Jericho Senior High School
Chen, Jun, 17
Role of Active Vitamin D on Reserved Intestinal Stem Cells

Jericho Senior High School
Takahashi, Keita , 17
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Jericho Senior High School
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Optimizing Real-Time Interictal Epileptiform Discharge Detection Through the Implementation of a Hilbert Transformer

Kings Park

Kings Park High School
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Levittown

General Douglas MacArthur High School
Hong, Melody Heeju, 17
A Bayesian Exploration Into More Flexible *trans*-Methylation Quantitative Trait Locus Mapping

Lynbrook

Lynbrook High School
Reilly, Eric, 17
The Visible Light-Induced Photocatalytic Oxidation of Aromatic Alcohols to Carbonyls and Peroxides Using Green Chemistry Principles

Manhasset

Manhasset High School
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Cardiometabolic Health in Asian American Children

Manhasset High School
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New Hyde Park

Herricks High School
Chen, Serena, 17
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Herricks High School
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Leveraging Machine Learning To Reveal the Impacts of Light Pollution on Suboscine Birdsong Characteristics Extracted From the Xeno-Canto Database: A Principal Component Analysis

Herricks High School
Lee, Caitlin Avery, 18
In vitro Analysis of SARS-CoV-2 Omicron JN.1 Subvariants With Spike S31 Deletion and Their Evasion of COVID-19 Therapies

Herricks High School
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Gallium-Mediated DNA Tensegrity Triangle-Based Crystals: A Novel Prototype Facilitating Gallium Cancer Therapy

Herricks High School
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The Novel Effect of Veratrin on Cellular Viability and Apoptotic Proteins in Fuchs Endothelial Corneal Dystrophy

New Paltz

New Paltz Central High School
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The Effects of Wildfire Intensity on the Regeneration of *Pinus rigida* Mill on the Shawangunk Ridge

New Rochelle

New Rochelle High School 1
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Music to My Eyes: The Relationships Between Auditory and Visual Input and the Formation of Synesthetic Associations

The Ursuline School
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Beyond the Heartbeat: A Novel Machine Learning Approach to Identifying Palliative Care Candidates in Heart Failure

New York

Browning School
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Utilizing AI To Optimize EMS Response to Acute Mental Illness and Resulting ER Resource Allocation

Columbia Grammar & Preparatory School
Eisenberg, Sophie, 17
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Hunter College High School
Wizman, Soleil Ava, 17
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Hunter College High School
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Stuyvesant High School
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Old Westbury	**The Wheatley School** **Pinto, Alaina Brooke, 17** Visualizing the Impact of Interleukin-32 on Tight Junction Integrity and Nuclear Morphology From Glioblastoma Metastasis in Human Endothelial Cells
Ossining	**Ossining High School** **Jiang, Anthony, 17** Short-Formatted Video Product Advertisements Influence on Purchasing Behavior Among Children and Adolescents
	Ossining High School **Yunga, Haylli, 17** Modeling Eccentricity and Spin-Precession in Binary Black Hole Gravitational Wave Events Using the Effective One-Body Method
Pelham	**Pelham Memorial High School** **Pachella, Madeleine Rose, 18** Analyzing B Cell Classification Changes in the Cerebrospinal Fluid and Blood Influenced by Ocrelizumab Treatment in Multiple Sclerosis
	Pelham Memorial High School **Robinson, Axel van Ogtrop, 17** Insomnia Phenotypes and Their Adverse Health Effects
Pittsford	**Pittsford Mendon High School** **Yu, Emily Xinxin, 16** Uncovering Unique Behavioral Patterns in Autistic Children Through Multimodal Machine Learning Analysis of Eye-Hand Coordination
	Pittsford Sutherland High School **Xie, Matthew, 17** Predicting the Risk of Asthma Development in Youth Using Machine Learning Models
Plainview	**Plainview-Old Bethpage John F. Kennedy High School** **Lee, Chloe Yerin, 18** Exploring the Effects of Cannabidiol-Medium Triglyceride Oil on Locomotion and Tap Withdrawal Response Using *Caenorhabditis elegans* as a Model for Alzheimer's Disease
Port Washington	**Paul D. Schreiber High School** **Chen, Dean, 17** Improving the Precipitation Distribution Around Synthetic Tropical Cyclone Tracks Using Radar, P-CLIPER Precipitation Model and Deep Learning
	Paul D. Schreiber High School **Poulsen, Sadelle, 17** Exploring the Content Themes and Engagement Strategies Used by First-Time Voters on TikTok
Saint James	**Smithtown High School East** **Bassi, Daanish, 17** Assessing Novel RIPK2-MKK7 Interaction Inhibitors in Prostate Cancer Cell Lines

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Cao, Jolene, 17
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Smithtown High School East
Chai, Richard, 18
Optimizing the Nitro-Oxidation Process To Convert Lignocellulosic Waste Into Fertilizers and Nanocellulosic Materials

Scarsdale

Edgemont High School
Hong, Kento Luke, 18
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Scarsdale High School
Deng, Kelly, 18
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Syosset

Syosset High School
Ren, Michael, 17
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Syosset High School
Zhou, Winston, 17
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Tarrytown

Hackley School
Malik, Vivek, 17
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Yorktown Heights

Yorktown High School
Goyal, Chinmayi, 17
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Yorktown High School
Winslow, Makayla, 17
Transglutaminase as a Novel Mediator of Dopamine Toxicity in Parkinson's Disease

NORTH CAROLINA

Cary

Cary Academy
Patel, Nayan, 17
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Durham

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Cummings, Ava Grace, 18
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North Carolina School of Science and Mathematics
Datta, Aretha, 18
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North Carolina School of Science and Mathematics
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DEFT-FACT: Designing Effective Field Tests for Fentanyl Analogs With Computational Testing

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Heyder, Anneliese, 18
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North Carolina School of Science and Mathematics
Kummetha, Nihar, 18
Discovery of Aza-Stilbene as a Scaffold for a Histamine Receptor H_2 Antagonist for the Treatment of Gastroesophageal Reflux Disease

North Carolina School of Science and Mathematics
Qu, Skyler, 17
Enhancing the Efficacy of Riparian Buffer Zones Using Native Grasses and Symbiotic Fungi in Relation to Overflowing Hog Waste in Rural North Carolina

North Carolina School of Science and Mathematics
Strickland, Johnathan, 17
Investigating the Morphologies of Local-Scale Dust Storms in the Northern Hemisphere of Mars

North Carolina School of Science and Mathematics
Tringale, Anna Theresa Marie Christopher, 17
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Raleigh

William G. Enloe High School
Feng, William, 17
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William G. Enloe High School
Iyer, Vedant, 17
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William G. Enloe High School
Patlolla, Thanush, 17
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William G. Enloe High School
Xu, Phoebe, 18
Metabolic Reprogramming of Immune Cells in HIV Infection and Treatment

OHIO

Chagrin Falls

University School
Kapadia, Vishwum, 17
Change in Dicrotic Notch Index Predicts Outcomes in Patients Undergoing Transcatheter Edge-to-Edge Repair for Mitral Regurgitation

Mason
William Mason High School
Acharya, Laasya, 17
Implementing a Novel Multimodal Neural Network Approach Using Dynamic Hyperparameter Selection Within an Unmanned Aerial Vehicle for the Early Detection of Crop Diseases

Toledo
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Khare, Chinmay S., 18
Mitigating the Energy Crisis: A Novel Generalizable Machine Learning Method To Accurately Predict Thermodynamically Stable Structures of Highly Site-Disordered Photovoltaic Materials

OREGON

Lake Oswego
Lake Oswego High School
Aranda-Michel, Liam, 18
HemoLens: An Open-Source Pressure Myograph and Cardiac Flow Simulator for Analysis of Native and FRESH 3D Bioprinted Vasculature

Portland
Sunset High School
Gu, Jasper, 17
Autoinducing Peptide Mimetics: An Advanced Method To Inhibit Quorum Sensing in *Staphylococcus aureus*

Westview High School
Ketineni, Hrithik, 17
Quantum Algorithm for Exact Minimal Exclusive-OR Sum-of-Product Minimization and Reversible Synthesis

PENNSYLVANIA

Allentown
Parkland High School
Cai, Brandon, 17
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Ardmore
Lower Merion High School
Ying, Bole, 18
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Berwyn
Conestoga High School
Siddique, Faizaan, 17
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Merion
Episcopal Academy
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A Novel Portable Wave-Driven Desalination System for Emergencies and Remote Coastal Communities

Philadelphia
Julia R. Masterman High School
Sanxhaku, Aiden Rubin, 18
Cation-Effect on Alkaline Redox Flow Batteries: Enhancing Electron Transfer Kinetics Through Electrolyte Additives

Radnor

The Grayson School
Freidenreich, Nerya, 17
Accuracy of a Timekeeping Device Calibrated on Beta Decay From Tritium

RHODE ISLAND

East Greenwich

East Greenwich High School
Gammell, Finán, 17
THRESHOLD: A Comprehensive Transcriptomic Analysis Tool for Evaluating Gene Saturation and Impact on Disease Progression

Portsmouth

Portsmouth Abbey School
Shon, Jennifer, 19
Evaluating the Effect of Alloferon Peptide on Survival Rate, Flight Performance and Honey Production of Honey Bees *(Apis mellifera)* To Increase Honey Bee Productivity

Portsmouth Abbey School
Zhang, Alaina, 17
Sugar Kelp as a Sustainable Biofilter for Nutrient Removal: A Case Study in Narragansett Bay, Rhode Island

SOUTH CAROLINA

Columbia

Spring Valley High School
Guedhami, Emna, 18
The Effect of *Lemna minor* and *Azolla caroliniana* on the Phytoremediation of Simulated Biomedical Waste

TENNESSEE

Chattanooga

McCallie School
Chai, Forrest, 18
Enhancing Drug-Drug Interaction Predictions: Novel Dual-Contrasting Framework and Self-Attention in Message-Passing Neural Networks

Nashville

Martin Luther King Jr. Magnet High School
Feleke, Lena Zewdu, 17
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TEXAS

Arlington

James W. Martin High School
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Austin

Harmony School of Endeavor Austin
Mohammad, Umar Haneef, 17
SOAR: Automatically Differentiable Neural Network Aerodynamic Surrogate Models and Lifting Line Theory for Computationally Efficient Wing-Shape Optimization

Westlake High School
Chen, Alan Jiaqi, 18
AssemblyComplete: Deep Reinforcement Learning-Based Combinatorial 3D Assembly Completion

Westwood High School
Shankar, Rohan, 17
Exploring an Alternative Form of Supersymmetry With Modified Experimental Signatures, Suppressed Cross-Sections and Potential for Experimental Detection of Superpartners

Dallas

Hockaday School
Guo, Aimee Wang, 18
Marker Track: Accurate Fiducial Marker Tracking for Evaluation of Residual Motions During Breath Hold Radiotherapy

Denton

Texas Academy of Mathematics and Science
Mazumder, Anirudh, 17
Novel Intelligent Controllers for the Precise Movement of Soft Robots

Texas Academy of Mathematics and Science
Motati, Saikiran, 17
SolRefProp: Reference Ensembling for Enhanced Solubility Prediction

Texas Academy of Mathematics and Science
Slaughter, Elliott, 18
Devising Metal-Organic Framework Technology for Scalable Direct-Air Capture of CO_2

Houston

Klein Cain High School
Falzarano, Katharine, 17
A Comprehensive Investigation Into Predicting Protein Expression Levels From ScRNA-seq Data Using Deep Learning

Plano

Plano East Senior High School
Bhat, Prisha Prakash, 17
Genetic Augmentation of *Oryza sativa* To Increase Drought and Arsenic Tolerance Through Overexpression of Aquaporin Genes

Plano East Senior High School
Gummaraju, Manya, 18
Tinted Truths: Tartrazine-Induced Dysregulation of Retrotransposons and p53 Expression in *Drosophila melanogaster* Highlights Its Genotoxic Role

Plano East Senior High School
Lee, Chloe Yehwon, 17
Chemical Modification of Acetaminophen To Reduce Liver Toxicity and Enhance Drug Efficacy

Plano West Senior High School
Arora, Dev, 17
A Novel Reinforcement-Learning Approach to Closed-Loop Blood Glucose Control Using Deep-Q Learning

UTAH

Salt Lake City

West High School
Cheng, Mingchuan, 17
Quantifying the Cognitive Demand of Controlling a Prosthesis With a Secondary Detection Response Task

Sandy

Waterford School
Sun, Sierra Anne, 18
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VIRGINIA

Aldie **Lightridge High School**
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MasterMind: A Novel Multi-Output Model Approach to Detecting Mental Illnesses Through Natural Language Processing

Alexandria **Thomas Jefferson High School for Science and Technology**
Banerjee, Sanchali, 18
LUSO-GenAI: A Novel Framework Using Conditional Generative Adversarial Networks (cGANs) To Synthesize Spatial Land Use Strategy Through Economic-Environmental Payoff Optimization

Thomas Jefferson High School for Science and Technology
Lin, Marina, 18
A Carbon-Aware Ant Colony System Algorithm for the Sustainable Generalized Traveling Salesman Problem

Thomas Jefferson High School for Science and Technology
Pan, Phoebe, 18
Data Augmentation Strategies for Improved $PM_{2.5}$ Forecasting Using Transformer Architectures

Thomas Jefferson High School for Science and Technology
Rao, Samvrit Vasudev, 17
A Novel AI Framework for Personalized COPD Treatment Planning: Integrating EHR Analytics and Phenotype-Based Weighted Predictions

Thomas Jefferson High School for Science and Technology
Shi, Patrick, 17
Integrative Genomic Analysis Identifies Novel Causal Genes of Hodgkin's and Non-Hodgkin's Lymphoma

Thomas Jefferson High School for Science and Technology
Sun, Jaydon Shuan, 17
Synthesis, Crystal Structures and Hirshfeld Surface Analysis of 18-Crown-6 Stabilized Potassium and Ammonium Salt of Oxalatotriphenylstannate

Thomas Jefferson High School for Science and Technology
Vijayram, Avnith, 17
Graph Networks and Game Theory To Predict Gene Expression Pathways and Cardiotoxicity in Cardiac Cells

Thomas Jefferson High School for Science and Technology
Zhang, Ray, 17
Biofilm Composition in Clinical Isolates of Fungal Fusarium and Development of a Multi-Targeted Antifungal Treatment To Inhibit Proliferation

Charlottesville **Albemarle High School**
Ambati, Vidya, 17
Haloperidol Inhibits Inflammasome Activation via the Novel Receptor LAMTOR1 and Reduces the Risk of Rheumatoid and Gouty Arthritides

Manassas **The Governor's School @ Innovation Park**
Lateef, Rania Sophia, 18
Rhythms and Blues: Evaluating the Impact of Artificial Light Exposure and Circadian Disruption on Biobehavioral Systems in *Drosophila melanogaster*

McLean

The Potomac School
Choi, Kate, 18
Improving Racial Equity in Skin Cancer Detection: Leveraging Artificial Intelligence-Driven Synthetic Image Generation, Cascading Convolutional Neural Networks and Affordable Diagnostic Hardware for Accurate Cancer Screening Across All Skin Tones

The Potomac School
Kaashyap, Anaahita, 18
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The Potomac School
Ozcan, Erim, 18
Parametric Optimization and Discovery of a Low-Noise Toroidal Quadrotor Propeller With a Leading Blade Height Offset for Responsible Wildlife Research

Virginia Beach

Ocean Lakes High School Mathematics and Science Magnet Center
Li, Rockwell T., 18
A Clearer Lens to the NanoWorld: Scanning Tunneling Microscope Super Resolution

WASHINGTON

Bellevue

Bellevue High School
Zhang, Owen Jianwen, 18
Tetrahedron-Intersecting Families of 3-uniform Hypergraphs

Olympia

Olympia High School
Shen, Kevin, 18
Taming the Oblique Wing: Improving Fuel Efficiency by Developing and Flight Testing an Oblique Wing Aircraft Utilizing a Novel Control Method

Redmond

Tesla STEM High School
Chen, Anson, 18
DATect: Forecasting Domoic Acid Levels From Harmful Algal Blooms Along the Pacific Northwest Coast

Sammamish

Sammamish Homeschool
Lu, Susie, 17
Fast Consensus Topology Design via Minimizing Laplacian Energy

Seattle

The Lakeside School
Dhillon, Rohan Harjeet, 17
Patterns in the Stable SL(N) Homologies of Torus Knots

The Lakeside School
Tangirala, Aanika, 17
Toward Improved Recognition and Diagnosis of Autism Among Females: A Novel Approach Using Machine Learning

WISCONSIN

Brookfield

Brookfield Central High School
Ramachandrula, Kartik, 18
Toward Explaining the DAMA/LIBRA Dark Matter Signal via Groundwater Fluctuations

CHINA

Beijing

Dulwich College Beijing
Geng, Jiaying, 18
Molecular Examination of the Possibility for ALS Reversals and Plateaus

Hong Kong SAR

Hong Kong International School
Huang, Kattie Fei, 17
Applying Machine Learning Approach to Predicting Total Fertility Rate: A Comparison With the United Nations Projections

Shanghai

Shanghai American School Pudong Campus
Jin, Eric Sheng-Yan, 18
The Design and Analysis of a Bat-Inspired Ornithopter

MALAYASIA

Iskandar Puteri

Marlborough College Malaysia
Teo, Jolie, 17
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SWITZERLAND

Reinach

International School Basel
Singhal, Ritik, 17
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About Regeneron

Regeneron (NASDAQ: REGN) is a leading biotechnology company that invents, develops and commercializes life-transforming medicines for people with serious diseases. Founded and led by physician-scientists, our unique ability to repeatedly and consistently translate science into medicine has led to numerous approved treatments and product candidates in development, most of which were homegrown in our laboratories. Our medicines and pipeline are designed to help patients with eye diseases, allergic and inflammatory diseases, cancer, cardiovascular and metabolic diseases, neurological diseases, hematologic conditions, infectious diseases, and rare diseases.

Regeneron believes that operating as a good corporate citizen is crucial to delivering on our mission. We approach corporate responsibility with three goals in mind: to improve the lives of people with serious diseases, to foster a culture of integrity and excellence and to build sustainable communities. Regeneron is proud to be included on the Dow Jones Sustainability World Index and the Civic 50 list of the most "community-minded" companies in the U.S. Throughout the year, Regeneron empowers and supports employees to give back through our volunteering, pro bono and matching gift programs. Our most significant philanthropic commitments are in the area of early science education, including the **Regeneron Science Talent Search** and the **Regeneron International Science and Engineering Fair (ISEF)**.

For more information, please visit **www.Regeneron.com/scienceeducation**
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