



Animal Sciences

1ST

Alexandra Claire D'Alessio (Half Hollow Hills West)

Half Hollow Hills West

A Comparison of Ceramic and Wooden Mediums for Artificial Pollinator Habitats to Mitigate Thermal Shock and Fungal Spread

2ND

Aleeza Akhtar (Valley Stream South High School)

Valley Stream South High School

*Timing-Dependent Effects of Resveratrol on FASD and Diabetes-Induced Developmental Deficits in *Drosophila Melanogaster**

3RD

Alexa Joy Kosinski (Valley Stream South High School)

Valley Stream South High School

*Mitigating Implications of Glyphosate-based Herbicides on Earthworms Through Cyanobacteria (*Spirulina*) and Fungi (*Trichoderma*) Supplementation*

3RD

Anthony Richard Caiazza (St Anthony's High School)

St Anthony's High School

*Optimizing DNA Extraction for Non-Invasive Tarantula (*Theraphosidae*) Exuviae DNA Barcoding, utilizing Oxford Nanopore Sequencing*

3RD

Naima Brown (Valley Stream South High School)

Valley Stream South High School

*The Long Term Effect of Styrofoam Based Diets on *Zophobas morios**

H.M

Kyle Wasserman (Bellmore John F. Kennedy High School)

Bellmore John F. Kennedy High School

The Synergistic Effect of Spermidine and Urolithin A on Muscle Degeneration in a Drosophila melanogaster Duchenne Muscular Dystrophy Model

H.M

Amanda Klein (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Impacts of Curcumin and Methylene Blue on the Rough Eye Phenotype of V337M Drosophila?.

H.M

Salvatore LoBrutto (W.C. Mepham High School)

W.C. Mepham High School

Trabecular Bone Adaptation to Mechanical Forces in the Proximal and Distal Regions of Canine Fabellae

Behavioral and Social Sciences

1ST

Karina Sofia Rios (Long Beach Schools)

Long Beach Schools

Evaluating Behavioral Outcomes and Gut Microbiome Diversity in Drosophila melanogaster Following Exposure to Natural Versus Prescription ADHD Interventions

1ST

Daniel Lang Ming (Syosset High School)

Syosset High School

Digital Expressions of Discontent: A Computational Analysis of Anti-Work Reddit Communities and Evolving Work Narratives

1ST

Nikhil Shah (Syosset High School)

Syosset High School

Examining the Impact of the Federal Sentencing Guidelines on Racial Disparities in Federal Sentencing

2ND

Kate Marianne Ragona (Long Beach Schools)

Long Beach Schools

Consumer Explicit vs. Implicit Attitudes and Taste Perception of Dairy and Plant-based Milks

2ND

Sydney Pollux Bergstein (Long Beach Schools)

Long Beach Schools

The Impact of AI-Generated Social Media Photo Filters on Self Reported Confidence and the Efficacy of Media Literacy Interventions

2ND

Yael Novak (Roslyn High School)

Roslyn High School

Broken Mass Index (BMI): Developing Inclusive Anthropometric Tools for Diverse Populations

2ND

Elaine Liu (Syosset High School)

Syosset High School

The Effects of Apology Strategies on the Spread and Intensity of Cancel Culture Incidents

3RD

Ruby Baik (Commack High School)

Commack High School

Effects of Dop1R Knockdown and Dop2R Overexpression on Addiction-Related Behavior in Drosophila

3RD

Taylor Amber Fong (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

Intersecting Impacts of Racial Identity and Ascribed Gender Stereotypes on Public Perceptions of Intimate Partner Violence Victims

3RD

Soha Jhaveri (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

Evaluating the Effectiveness of Various Interpreter Modalities on the Behaviors of Medical Providers in a Clinical Setting

3RD

Kkomal Dhillon (East Meadow High School)

East Meadow High School

Through Their Eyes: The Impact of 2D Simulations on Empathy and Attitudes Toward Schizophrenia

3RD

Emily Zheng (East Meadow High School)

East Meadow High School

Facing Fears: Developing a Cognitive Behavioral Therapy Based Mobile Application to Combat Adolescent Specific Phobia

3RD

Maya Shiloh Stromer (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Role of the Implementation of the Multi-Tiered System of Supports on Teacher Effectiveness in Accommodating Student Mental Health Needs

H.M

Leonora Bella Atmadjaja (North Shore High School)

North Shore High School

Questioning Rules: How Rule Relativity Beliefs Shape Human Responses to AI

H.M

Asees Kaur Chhabra (W. Tresper Clarke High School)

W. Tresper Clarke High School

Environmental Stress Responses in Drosophila melanogaster: Implications for Human Disease Models

H.M

Giana Carla Diaz (Plainedge High School)

Plainedge High School

TikTok Tics: Exploring the Outbreak of Functional Tics on TikTok

H.M

Jia Ru Yang (Valley Stream South High School)

Valley Stream South High School

HOW DIFFERENT MOTIVATIONS OF PENPALLING AFFECT THE PERCEIVED QUALITY OF RELATIONSHIPS, COMPARED TO SOCIAL MEDIA

H.M

Gianni Livigni (Paul D Schreiber High School)

Paul D Schreiber High School

The Effect of AI Content Labels on Music Consumption and Marketing

H.M

Samaya Syali (Half Hollow Hills East)

Half Hollow Hills East

How the long-term effects of Unemployment Insurance Generosity and Secondary Measures affect Opioid Overdose Mortality before and after the COVID-19 Pandemic (2018 to 2023)

Biology Related

1ST

Benson Lu Huang (Half Hollow Hills West)

Half Hollow Hills West

BLADE: Bioimpedance-Enabled Laparoscopic Articulated Dual-purpose EndoWrist for Force Sensing and Anomaly Detection in a Glove-Based Robotic Surgery Interface

1ST

Anchita Agrawal (Jericho High School)

Jericho High School

Characterizing Convergent Transcriptomic Impacts of Norepinephrine Across Breast Cancer Grades via Element AVITI-24

1ST

Tessla Chan (Roslyn High School)

Roslyn High School

Uncovering Mechanistic Insights into PELO Dependency Across Molecular Subtypes of Gastrointestinal Cancers

1ST

Nikita Kumar (Herricks High School)

Herricks High School

BRAINMAP-NET: A Multilayer Convolutional Neural Network-Based Tool for Clustering Glioma Mechanical Subregions Using Topological Modeling of MRE-Derived Stiffness Gradients and Curvature

2ND

Taylor Maguire (Garden City High School)

Garden City High School

Dragon Gel: Exploring the Capabilities of a Dragon Fruit-Infused Wound Healing Hydrogel in the Mitigation of Oxidative Stress

2ND

Austin Hanchi Jin (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

M-CATCH: A Multiplex Microparticle CRISPR Assay for Mycobacterium Tuberculosis Drug Resistance Characterization

2ND

Samantha Liu Stoneking (Manhasset High School)

Manhasset High School

CLECL1+ CLL Cells Drive Lymph Node Fibroblast Reprogramming via Lymphotoxin Secretion

2ND

Alexandra LaBella (Bellmore John F. Kennedy High School)

Bellmore John F. Kennedy High School

The Effects of Adolescent Isolation on Social Behavior and Their Relationship with Neural Activity Utilizing Brain Tissue from TRAP2 Male Mice

2ND

Rachel Sloane Braverman (Half Hollow Hills West)

Half Hollow Hills West

A Comparison of Deep Neural Networks and Random Forests in Binary Single Nucleotide Polymorphism Pathogenicity Classification

2ND

Wenshu Wang (Herricks High School)

Herricks High School

Developing a Novel Hippocampus-Specific Epigenetic Clock Based on DNA Methylation Signatures of Late-Life Individuals

3RD

Connor William Chiu (Jericho High School)

Jericho High School

Uncovering a Novel miR-6068–RSP03 Axis Driving Hyperactive Wnt Signaling and Treatment Resistance in Glioblastoma

3RD

Vanessa Rose Maltez (Long Beach Schools)

Long Beach Schools

Synthetic and Natural Food Dye- Induced Modulation of Probiotic Biofilm Formation, Viability, and Chemical Resistance in L. acidophilus

3RD

Natalie Horioglu (Paul D Schreiber High School)

Paul D Schreiber High School

Effects of Post-Dauer Development on Longevity in miRNA-Deficient C. elegans

3RD

Abigail Thomas (Herricks High School)

Herricks High School

Examining the Pathway of Rab8 Mediated Trafficking of GluA1-AMPA Receptors in Response to In Vitro Chemical LTP Induction in Wildtype and Lrrk2G2019S Striatal and Cortical Neurons

3RD

Kevin Liu (Jericho High School)

Jericho High School

Integrative Structural Modeling and Molecular Dynamics Simulations Reveal Novel Insights Into Autism SORCS3 Missense Mutations

3RD

Ethan Y Wang (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

SPARK - Simulation Platform for Adaptive Resistance Kinetics

3RD

Nathanial Ma (Half Hollow Hills East)

Half Hollow Hills East

Genome-Wide Mapping of Hyperhidrosis Vulnerability: Novel Loci and Mechanisms

H.M

Isabel Rose Gonzalez (Manhasset High School)

Manhasset High School

Towards Highly Sensitive, Non-Invasive Liquid Biopsy-Based Cancer Detection: Evaluating The Stability of Frenkel Excitonic Supramolecular Nanoassemblies with Biological Systems

H.M

Cathlyne Gabrielle Cueto (Lynbrook Senior High School)

Lynbrook Senior High School

Engineering a Microneedle-Mediated Transdermal Epinephrine Administration Platform for Prophylaxis Against Anaphylactic Immunological Responses

H.M

Trisha Samanpure (Garden City High School)

Garden City High School

Transtibial Prosthetic Socket Engineering: A Closed-Loop Workflow Combining 3D Limb Reconstruction, Stereolithographic Fabrication, Mechanical Load Characterization, and Finite Element Analysis

H.M

Kaylee Xinying Kuhr (Half Hollow Hills East)

Half Hollow Hills East

Embryonic Stage-Specific Localization and Enrichment of RhoGEFs in Drosophila PGCs Suggests Candidates for Therapeutic Metastatic Cancer Suppression

H.M

Brendan Lo (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Blocking SERCA2a With Thapsigargin Induces Cytokinesis Failure in Cardiomyocytes

H.M

Colin Davison (North Shore High School)

North Shore High School

Serine Threonine Kinase 25 (STK25) is an Integral Regulator of Basal Myeloid Cell Production

H.M

Noa Karp (Roslyn High School)

Roslyn High School

Basal Type I Interferon Signaling Pre-Programs Effector Memory CD4⁺ T Cells in a Genetically Tunable

IFNAR Model

H.M

Sahil N Patel (St Anthony's High School)

St Anthony's High School

Direct Visualization and Comparative Analysis of Let-7 and Lin-4 Transcriptional Dynamics in C. elegans With MS2-MCP Signal Optimization

H.M

Dominic Cyril (New Hyde Park Memorial High School)

New Hyde Park Memorial High School

Anti-Inflammatory Properties of Naproxen Sodium Combined With Cerium Oxide (CeO₂) Nanoparticles on IL-1β-Inflamed Chondrocyte Cells

H.M

Alan Shiheng Yu (Half Hollow Hills West)

Half Hollow Hills West

CEP164 as a Focused Full Cilia-Function Knockout for Neurodevelopment

H.M

Varda Qudratullah (Elmont Memorial)

Elmont Memorial

Synergistic Toxicity of Manganese and MPP? Through Oxidative and Metabolic Collapse in SH-SY5Y Cells in Parkinsons Disease

H.M

Manasvi Dendukuri (Jericho High School)

Jericho High School

A Computational Ranking of Relapsed and Refractory Multiple Myeloma CAR-T Targets Using Antigen Stability Signals

H.M

Liana Cheng (Smithtown High School West), Jacey Lin (Smithtown High School West), Gyuree Lee Kim (Bethpage High School)

Smithtown High School West

Comparative Study of Mucilaginibacter sp. AK6, Mucilaginibacter sp. AK15 and Pedobacter sp. AK17 on their Effect on Wheat Plant Health and Growth

Chem Related

1ST

Ryan Tae (Jericho High School)

Jericho High School

Unlocking a Tenfold Increase in Battery Performance: Poly(citric Acid) as a Novel Binder for Silicon Anode Batteries

2ND

Lucienne Keyoung (Manhasset High School)

Manhasset High School

Tunable Morphology of Zero-Waste Cellulose Nanofiber Hydrogels via a Novel Gelatin-Mediated Ice Inhibition Mechanism for Sustainable Agriculture and Water Remediation

3RD

Michelle Okonowicz (Commack High School)

Commack High School

New Approaches for Affordable, Earth Abundant Dye-Sensitized Solar Cells: Synthesis and Characterization of $[Fe(CN)_4(dppz)]^{2-}$ and $[Fe(CN)_4(dppn)]^{2-}$

3RD

Catherine Chen (Manhasset High School)

Manhasset High School

Preventive and Restorative Strategies for Multifunctional Concrete Using Hydrogel-Encapsulated Healing Agents and CNF: Integrated Wet-Lab and Computational Approaches

3RD

Matthew Lin (Roslyn High School)

Roslyn High School

Using Bayesian Optimization to Design Conductive PEO-Based Mixed-Graft Block Copolymers

H.M

Charlie Mastroberti (West Islip High School)

West Islip High School

Analysis of Microplastic and Chemical Filtration Through Different Water Filters

H.M

Odelia Syrai Nugent (Elmont Memorial)

Elmont Memorial

Investigating the Effects of Graphite Particles on the Electrical Conductivity of Concrete

H.M

Xiaowu Lai (Jericho High School)

Jericho High School

Printing the Future of Flight: Additive Manufacturing of Carbon Fiber/Carbon Nanotube Hybrid Reinforced Polyetheretherketone (PEEK) Composites using Selective Laser Sintering

Enviroment Related

1ST

Vedant Balani (Jericho High School)

Jericho High School

Hurricane Forecasting Using Comprehensive Multivariable Machine Learning Modeling with Atmospheric Temperatures, Polar Motion, and Sunspot Numbers

1ST

Sydney Grace Olivo (Long Beach Schools)

Long Beach Schools

Detection of Trifluoroacetic Acid in Commercial Water Filters and Its Toxicological Impacts on Keystone Aquatic Species

1ST

Rachel Olivia Master Huth (Huntington High School)

Huntington High School

Design and Evaluation of an Energy-Efficient CO₂ Capture System Utilizing Sodium Hydroxide for Ammonium Bicarbonate Fertilizer Synthesis

2ND

Christina Jeannette Bayne (Elmont Memorial)

Elmont Memorial

Utilizing Foraminifera to Compare Temperature Changes in the Western Pacific Warm Pool Thermocline to Orbital Forcing.

2ND

Anjali Ponugupati (Bethpage High School)

Bethpage High School

Effect of pH-Modified Dissolved Organic Matter On Per- and Polyfluoralkyl Substance Adsorption by Granular Activated Carbon

2ND

Victoria Rose Sinnona (Long Beach Schools)

Long Beach Schools

Pilot Study: Low-Cost Removal of Polypropylene Microplastics Using Electrospun Biocompatible Fiber Mats

2ND

Joshua Norman Fields (Northport High School)

Northport High School

Evaluating rGO/ZIF-67 Nanocomposites for Dye Remediation Using an Algal Photosynthesis Bioassay

3RD

Alice Huang (Syosset High School)

Syosset High School

Advancing Ensemble Tropical Cyclone Forecasts with a Novel Integration of Atmospheric Physics-Aware

Consistency Frameworks in Artificial Intelligence Weather Prediction Models

3RD

Ella Marie Menu (East Hampton High School)

East Hampton High School

Ocean Wave Growth Measurements in Hurricane-Force Winds

3RD

Vaibhavi Hegde (Hauppauge High School)

Hauppauge High School

Textile Recycling: Exploring Enzymatic and Anaerobic Methods for Blended Textile

3RD

Humzah Syed Mohsin (Valley Stream South High School)

Valley Stream South High School

A Machine Learning–Powered Water Quality Prediction Model and Cost-Effective Iot Water Quality Monitoring System
A Machine Learning–Powered Water Quality Prediction Model and Cost-Effective Iot Water Quality Monitoring System.

3RD

Cynthia Qian (Jericho High School)

Jericho High School

Computational Discovery of Marine Plastic-Degrading Enzymes Enhanced by Deep Eutectic Solvents

H.M

Cynthia Zhang (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Evaluation of AI Weather Prediction Model on Extreme Eastern U.S. Extratropical Cyclones Using a Cyclone-Relative Approach

H.M

Thomas James Fini (Manhasset High School)

Manhasset High School

Longitudinal Comparison of Microeukaryote Diversity in Contrasting Urban Reservoirs

H.M

Robert Lu (Manhasset High School), Yu Xiang Lin (Manhasset High School)

Manhasset High School

Iron-Based Ferrofluids Enhance Chlorella vulgaris-Mediated Bioremediation of Sewage Water Contaminants

H.M

Charlotte Avery Rothemich (St Anthony's High School)

St Anthony's High School

Examination of the Clearance Rate and Effects of Short-Term Exposure of Crassostrea virginica to Margalefidinium polykrikoides

H.M

Gregorio Andres Bonetti (Bethpage High School), Sarah Oh (Bethpage High School), Aryaan Khalfan (Bethpage High School)

Bethpage High School

The Effect of the Proximity of a Salt Marsh to Urbanized Areas on the Presence of Heavy Metals

H.M

Kahela Jade Michel (Elmont Memorial)

Elmont Memorial

A Geochemical Approach for Identification of Sea Surface Temperature Change: Using Coral Skeleton Temperature Proxies

H.M

Sebastian Truong (Mineola High School)

Mineola High School

The Effect of Pseudomonas stutzeri on the Inhibition of Alexandrium tamutum: Exploring Biosurfactant (Rhamnolipid) Amplification

H.M

Parker Eugene Molina (Hampton Bays High School)

Hampton Bays High School

Effects of Microplastic Pollution on Soil Microbial Communities in an Agricultural Soil.

H.M

Ella Rose Trama (Sayville High School)

Sayville High School

A Novel Approach to Nutrient Removal in Shellfish Upwelling Systems Using Biofiltration

H.M

Alexander James Keenan (Kings Park High School)

Kings Park High School

Streaming Potential: Enhanced Electrokinetic Energy Harvesting Using Wicking Materials

Math and Physics

1ST

Arav Chand (Half Hollow Hills West)

Half Hollow Hills West

Universal Matrices For Counting Fibo-Multinomial and C-Multinomial Coefficients With a Cryptographic Application

1ST

Gary Han (Syosset High School)

Syosset High School

Discovery of Previously Undetected Exocomets in Kepler Using ExoSeek, a Novel End-to-End Deep Learning Exocomet Detection Algorithm

2ND

Michael Petrizzo (Commack High School)

Commack High School

SFDiff: An Accurate, Generalizable Diffusion Denoising Probabilistic Model (DDPM) for State

Estimation of Nonlinear Systems

3RD

Henry Zhang (Jericho High School)

Jericho High School

Information Geometry of Continuous-Variable Quantum Neural Networks

3RD

Kristina Nicole Theodosopoulos (Manhasset High School)

Manhasset High School

Noise-Hardened BB84: Quantifying and Mitigating Environmental Noise to Restore Secure Keys in a Classroom-Scale QKD System

H.M

Arjun Patel Sankran (The Wheatley School)

The Wheatley School

Optimizing the Freemium Model: Conversion Challenges and Opportunities

H.M

Joaquin Charles Martin (Lynbrook Senior High School)

Lynbrook Senior High School

A Machine Learning Approach to Conduct Exoplanet Classification Based on Habitability Using Labeled and Unlabeled Data

H.M

Adrianna Theresa Stucchio (Half Hollow Hills East)

Half Hollow Hills East

Quantifying a Limiting Factor in Closed Shell Effect Charge State Breeding: Approximating a Point Beyond Which Radiative Recombination Becomes Non-Negligible

H.M

Brandon Li (John L. Miller Great Neck North High School)

John L. Miller Great Neck North High School

Analysis of Geomagnetic Storm Effects on Satellite Orbital Decay

H.M

Ariana Summer Bridges (North Shore High School)

North Shore High School

A Silent Breakthrough: Improving Variational Quantum Eigensolver Accuracy Through Use of a Denoising Autoencoder

Medical Related

1ST

Noor Waqas Sohail (Westhampton Beach High School), Brady Charles Schultz (Westhampton Beach High School)

Westhampton Beach High School

*An Experimental Analysis of the Effect of Dietary *P. dactylifera* Concentration on the Midguts and Memory in *D. melanogaster* Expressing the Amyloid Precursor Protein*

1ST

Divya Jayam (The Wheatley School)

The Wheatley School

Cephalexin as a Potential Novel Treatment for Parkinson's Disease Through Modulation of Gut Inflammasome Activity and Neuroprotective Pathways

1ST

Jonathan Zachary Philip (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Impacts of Resveratrol and Escherichia Coli Dietary Restriction on the Behavioral and Pathological Aspects of Alzheimer's Disease using Caenorhabditis Elegans as a Model

2ND

Aryana Adur (Jericho High School)

Jericho High School

Modulating a Novel Neuroepithelial Circuit in Food Allergy to Repair Barrier Dysfunction with Larazotide Acetate and Neuregulin-1

2ND

Sia Kripalani (The Wheatley School)

The Wheatley School

Integrating Selenium into Mercury Risk Models for Fish Consumption

2ND

Daniel Qiao Lin (Bellmore John F. Kennedy High School)

Bellmore John F. Kennedy High School

Liquid Lens-Based Automation of Accommodative Facility Testing in Myopia

2ND

Angelina Liu (Herricks High School)

Herricks High School

Deglycosylated LICAM Targeting Antibody Optimizes Ovarian Cancer Tumor Specificity in Immuno-PET Imaging

3RD

Samantha Reese Heyman (Half Hollow Hills East)

Half Hollow Hills East

Beyond the Sideline: Gaps in Brain Region Coverage by Sideline Concussion Assessments

3RD

Ella Rose Findling (George W. Hewlett High School)

George W. Hewlett High School

Glucagon-like peptide-1 Receptor Agonists Reduce Hepatic Steatosis and Fibrosis in Pediatric Metabolic-dysfunction Associated Steatotic Liver Disease

3RD

Jennifer K Pyo (Jericho High School)

Jericho High School

Effect of Melatonin on the HMGB1-Inflammatory Pathway and Macrophage Polarization

3RD

Chrysta Thomas (Oyster Bay High School)

Oyster Bay High School

Shaped by signals: Leveraging breast cancer nuclear morphology to elucidate regulatory pathways as therapeutic targets

3RD

Alessandra Marchese (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Impact of Prickly Pear Extract on C. elegans Modeling Charcot-Marie-Tooth Disease

H.M

Yena Hwang (St Anthony's High School)

St Anthony's High School

Mechanical Activity of Skeletal Muscle Suppresses Lung Cancer Migration Through Myokine-Mediated Pathways

H.M

Olivia Z Zeng (The Wheatley School)

The Wheatley School

Co-Targeting NPY, Metformin, and GSK-3 β ; for Multi-Pathway Alzheimer's Therapy.

H.M

September Chiang (Commack High School)

Commack High School

Evaluating the Effects of Curli Producing E.Coli on Alpha-Synuclein Aggregation in Drosophila

H.M

Aleena Zaidi (Friends Academy), Anthony Yu (Friends Academy)

Friends Academy

Improving Enteral Tube Care: Testing Methods to Clear Nutritional Formula Blockages Against a Novel Approach

H.M

Sophia Marie Stevenson (Long Beach Schools)

Long Beach Schools

Ultrasonographic Evidence of in Vivo Rouleaux Formation Induced by Cell Phone Radiation Exposure

H.M

Rylee Elizabeth Varian (Long Beach Schools)

Long Beach Schools

A Novel Investigation of Metformin's Effects of Metabolic and Neurological Defects in a Pan-Neuronal Drosophila melanogaster Model of Huntington's Disease (elav-GAL4; UAS-Htt)

H.M

Sophia Akmal (Syosset High School)

Syosset High School

Sargassum Pallidum Effects on the Alzheimer's Disease Model of Caenorhabditis elegans

H.M

Michelle V. Evangelista (Seaford High School)

Seaford High School

The Effect of Nicotinamide Mononucleotide and Caffeine on the Proliferation of Δ ;Sir2 Saccharomyces cerevisiae

Plant Sciences

1ST

Julia Igaunis (George W. Hewlett High School)

George W. Hewlett High School

Epigenetic regulation of rhizoid and root hair development in Ceratopteris richardii

2ND

Elizabeth Hsiao (Roslyn High School)

Roslyn High School

Restor-AI-tion Chamber: Integrating Machine Learning Detection and Ultraviolet C Therapy to Treat Xanthomonas Infections in Tomatoes and Bell Peppers

3RD

Virginia Rose Levine (North Shore High School)

North Shore High School

Novel SbMATE Isoforms & Expression Patterns Under Aluminum Stress in Sorghum

3RD

Valeria Camila Paez Martinez (George W. Hewlett High School)

George W. Hewlett High School

Alternative Splicing and Retrotransposon-Linked Intron Expansion in a Ceratopteris richardii Phytochrome Gene Yields a Red Light Induced Truncated Isoform

H.M

Jillian Kate Olfano (West Islip High School)

West Islip High School

Biopriming With Bacillus Probiotics: Effects on the Growth and Nutritional Value of Watercress

H.M

Sophie Jane Lancashire (East Hampton High School)

East Hampton High School

The Effect of Calcium Nitrate Concentration on Growth and Leaf Expansion in Hydroponically Grown Butterhead Lettuce.

H.M

Wilmer Steven Verdugo (East Hampton High School)

East Hampton High School

Evaluating the Effects of Pantoea Agglomerans, Endophytic Bacterium Strain PaKM, on the Growth and Nutrient Accumulation of Four Cultivars of Hydroponically Grown Lettuce (Lactuca sativa L.)

Technology

1ST

Emma Elise Su (Herricks High School)

Herricks High School

Developing a Novel Adaptive Tuning Module for Real-Time Frequency Correction in Radiofrequency Coils During Concurrent TMS-fMRI

1ST

Partap Sidhu (Bethpage High School)

Bethpage High School

NeuroGait: A Low-Cost, Mind-Controlled Pneumatic Exoskeleton With CNN-Based Control for Individuals With Lower-Limb Mobility Impairments Using Brain Computer Interface

2ND

Harrison Pearce Bernstein (Half Hollow Hills West), Galileo Solis (Half Hollow Hills West)

Half Hollow Hills West

Fire Resistant Drone That Uses Thermal, Radar, and Stereoscopic Vision Sensors to Navigate, Scan and Map Fires to Determine Location of Fire Victims

2ND

Julia Xu (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

A Novel Market-Based Machine Learning Framework for Detecting ESG-Washing in Investment Funds

2ND

Ethan Lin (New Hyde Park Memorial High School)

New Hyde Park Memorial High School

Development and Implementation of an Improved A/FTG Hybrid Algorithm on a Differential Drive Mobile Robot Chassis*

3RD

Joyce Xu (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Developing an Affordable On-Device Animatronic Hand and Large Language Model Based Pipeline for

Real-Time American Sign Language Conversation

3RD

Eric Zheng (Herricks High School)

Herricks High School

Quiet as an Owl: A Biomimetic Study Utilizing Low Fidelity Computational Simulations To Assess Propeller Aerodynamic Performance and Aeroacoustic Noise

3RD

Mohammad Wasim (Half Hollow Hills East)

Half Hollow Hills East

Automating Quantum Support Vector Classifier Feature Mapping: A Reinforcement Learning Based Approach to Data-Specific Optimization

3RD

Mark Xu Li (William A. Shine Great Neck South High School), Hye-Seung Cho (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

NTStream: A Cross-Stack Hardware Compiler for the Structural Synthesis of Custom ASIC Accelerators From Artificial Neural Networks (ANNs) for Edge Computing Applications

H.M

Jiacheng Huang (Jericho High School)

Jericho High School

Subwavelength Grating and Slot Waveguide Designs for Ultra-Compact Nonvolatile Silicon Photonic Phase Shifters

H.M

Eric Todd Greene (South Side High School)

South Side High School

Accelerating k-Nearest Neighbors Classification by Creating Two Dataset Optimization Algorithms

H.M

Ryan Yim (H. Frank Carey)

H. Frank Carey

Predicting Thyroid Cancer Recurrence Using Machine Learning Models With Feature Selection

H.M

Ray Tang (Shoreham-Wading River High School)

Shoreham-Wading River High School

Kinematic Synthesis of Planar Leg Mechanisms through Large-Scale Dataset Generation, Geometric Filtering, and Optimization

H.M

John M Ricci (Plainedge High School)

Plainedge High School

Optimizing the Locomotion System of an Eight-legged Robot Through Encoder-based Motors.

H.M

Serin Jo (Roslyn High School)

Roslyn High School

Design of a Lightweight Peak Picking Algorithm for Noisy Mass Spectrometry Data

H.M

Adithya Patnam (Herricks High School)

Herricks High School

Optimizing Information Delivery for Time-Critical Blind or Low Vision Navigation: Machine Learning vs. Heuristic Signaling in a Virtual Reality Obstacle Avoidance Task

H.M

Denys Zagrebin (Seaford High School)

Seaford High School

Utilizing RSSI Ranging in a Smartwatch Application to Measure Sprint Performance