



Animal Sciences

1ST

Kaitlin Kaiting Ho (North Shore High School)

North Shore High School

Cocoa's Cognitive Triumph: The Rescue of the Alzheimer's Model of Drosophila melanogaster with Theobroma cacao Supplementation

1ST

Katherine Lee (Jericho High School)

Jericho High School

C-Fos and Reelin Protein Localization: Brain Fluorescence Imaging of Activity Pathways in Mice During Sensory Behavior Tasks

2ND

Nicole Lynn Yeroushalmi (John L. Miller Great Neck North High School)

John L. Miller Great Neck North High School

The Effect of Diet on Galleria mellonella Larvae's Resistance to Bacillus thuringiensis

3RD

Kayla Palumbo (Sacred Heart Academy)

Sacred Heart Academy

CAN MODERN BLUE LIGHT-BLOCKING TECHNOLOGY EFFECTIVELY SHIELD DROSOPHILA MELANOGASTER FROM HARM?

3RD

Yasmeen Antonia Muñoz (Paul D. Schreiber High School)

Paul D. Schreiber High School

Host Preference of the Spotted Lanternfly, Lycorma delicatula (Hemiptera: Fulgoridae), Throughout its Life Cycle: A Citizen Science Observational Analysis

H.M

Margit Tess Romero (Paul D. Schreiber High School)

Paul D. Schreiber High School

*Estimating the Density of the Endangered Agile Gibbon (*Hylobates agilis*) Using Passive Acoustic Monitoring*

H.M

Brenton Lee (Syosset High School)

Syosset High School

*The Effects of *Astragalus membranaceus* Derivatives on the Prevention of Neuron Degeneration Caused by Amyotrophic Lateral Sclerosis in *C. elegans* and Computational Protein Software*

Behavioral and Social Sciences

1ST

Stasya Selizhuk (Half Hollow Hills East)

Half Hollow Hills East

Design of Generic Epinephrine Auto-Injector Minimizes Administration Error and Fingertick Injury

1ST

Syon Khatter (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

*Investigating Impacts of Sucralose on Hedonic Feeding Behaviors in *C. elegans* as a Model for Prevention and Treatment of Obesity and Eating Disorders*

2ND

Ryan Joon Yong Lee (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

Investigating the Effects of Emotional Parent-Child Communication and Perceived Parental Acculturation on the Coping-Self Efficacy of Adolescents

2ND

Ashley-Ann Vinece Francis (Valley Stream South High School)

Valley Stream South High School

Childhood Environment & Maternal vs. Paternal Role in Food Addiction Development: A Cross-Cultural Study

3RD

Matthew Wang (Jericho High School)

Jericho High School

Elucidating Adolescent Mental Health via Social Determinants of Mental Health Clusters

3RD

Holly Rae Sternlicht (Paul D. Schreiber High School)

Paul D. Schreiber High School

Investigating the Influence of Closed Captions on Viewers' Advertisement Experience

3RD

Eli Joshua Weseley-Jones (North Shore High School)

North Shore High School

Improving Understanding of Conditional Probability in Medical Screening Tests

H.M

Sarah Sun (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Cognitive Differences in the Optimization of Entrepreneurial Constructs and Opportunity Exploitation in Experienced vs. Novice Entrepreneurs

H.M

Alexandra Kanner (Roslyn High School)

Roslyn High School

The Effect of Logo and Board Representation on Perceptions of Autism Advocacy Organizations

H.M

Damariz Irene McCrae (Plainedge High School)

Plainedge High School

Predicting GOP Voter Preferences Through Sentiment, Polarity, and Word Cloud analyses of Political Rhetoric from The 2023 GOP Primaries; Implications on the Democratic Process

H.M

Hannah Isabelle Rosenberg (Paul D. Schreiber High School)

Paul D. Schreiber High School

Christian Nationalism, Anti-Semitism, and Attitudes Toward the War in Ukraine

Biomedical and Health Sciences

1ST

Natasha Kulviwat (Jericho High School)

Jericho High School

CLDN5 Downregulation and Albumin: Investigating Hallmarks of Blood-Brain Barrier Breakdown as Novel Biomarkers of Suicide Neuropathology

1ST

Alena Tsai (Manhasset High School)

Manhasset High School

Integrated In-silico and In-vitro Experimental Strategies for the Application of Carbon Quantum Dots in Alzheimer's Research

2ND

Griffin Hon (Syosset High School)

Syosset High School

Evaluating Differential Nutritional Regulation of Stem Cell Plasticity

2ND

Hiuyi Cheng (Herricks High School)

Herricks High School

Evaluating Border Associated Macrophages: A Novel Approach to Investigating Cerebral Blood Flow Dysregulation in APOE4 Mice

3RD

Alaina Brooke Pinto (The Wheatley School)

The Wheatley School

Microscopy of Claudin and Occludin Internalization in Brain Endothelial Cells After IL-32 Stimulation.

3RD

Rebecca Bover (Herricks High School)

Herricks High School

The Novel Effect of Rosuvastatin on Cholesterol 25-Hydroxylase (Ch25h) Oxysterol Metabolism and IL-6 in Response to LPS and ssRNA40 Stimulation

3RD

Shayla Zheng (Roslyn High School)

Roslyn High School

Cell Fusion as a Novel Mechanism Behind JQ1 Resistance in Triple-Negative Breast Cancer

H.M

Ashna Muni (Herricks High School)

Herricks High School

A Novel Prognostic Assessment of an Anti-tumor Biomarker: An in silico Analysis of Tumor Infiltrating Lymphocytes in Melanoma

H.M

Evalina Lentini (Sacred Heart Academy)

Sacred Heart Academy

Evaluation of Therapeutics to Target ?Stem Cell-Like Prostate Cancer

H.M

Lillian Wu (John L. Miller Great Neck North High School)

John L. Miller Great Neck North High School

Developing an Organoid Model Using Mouse Intestinal Stem Cells To Examine the Effect of Retinoic Acid on Inflammatory Bowel Disease

Cellular and Molecular Biology with Biomedical Engineering

1ST

Ava Brooke Goldsmith (John F. Kennedy High School)

John F. Kennedy High School

Targeting of Epichaperome Downregulates HCFC1 Mediated Transcription of Oncogenes: Implications in Breast Cancer Therapy

1ST

Rishi Aravind (Half Hollow Hills East)

Half Hollow Hills East

A Novel Role for α IIbB3 in the Development of Procoagulant Platelets via Phosphatidylserine (PS) Exposure

2ND

Madeline Ella Rong (The Wheatley School)

The Wheatley School

Investigating the Impacts of Dasatinib, Resveratrol and Gallic Acid on Non-Hodgkin's Lymphoma Cell Proliferation

2ND

Anjali Anand (Jericho High School)

Jericho High School

Fli1 and Galectin-3: Targets to Reduce Collagen Accumulation in Scleroderma.

3RD

Hannah Rubin (Manhasset High School)

Manhasset High School

Assessing the quality of 5% GelMA bioink

3RD

Aasiya Zehra Zaidi (Roslyn High School)

Roslyn High School

Reading the Book of Life, One Palindrome at a Time: Creating Novel Short Palindromic Sequence Detectors and High-Resolution Conservation Tools to Identify Important Sequence in C. elegans

H.M

Sahil Nilesh Patel (St Anthony's High School)

St Anthony's High School

Unraveling a Circrna-Mirna-Mrna Axis: A Potential Therapeutic Target for Non-small Cell Lung Cancer

H.M

Aafia Ahmed (Elmont Memorial)

Elmont Memorial

Investigating the JAK2/STAT3 Signaling Pathway in Methylmercury-Induced Toxicity in Mouse Astrocyte Neuronal C8-d1a Cell Line

H.M

Ishana Chadha (Commack High School)

Commack High School

The Effect of Metal Toxicity Induced mtDNA Mutations on Parkinson's Disease Pathology in Model Organism C. elegans

Chemistry and Material Science

1ST

Samyra Mahiba (Jericho High School)

Jericho High School

DNA Crystallography: Exploring Small-Molecule Interactions With DNA for Nanoscale Drug Delivery

2ND

Jolene Hanying Cao (Smithtown High School East)

Smithtown High School East

Synthesis of Stable and Magnetically Tunable Cesium Lead Halide Perovskite Quantum Dots by Nano-Encapsulation

3RD

Derek Zhang (The Wheatley School), Ashley Huang (Syosset High School)

The Wheatley School

The Impact of Titanium Dioxide Nanoparticles on Keratinocyte Proliferation and Differentiation

H.M

Dylan Dale Butler (George W. Hewlett High School)

George W. Hewlett High School

Synthesis of N2, N4-Disubstituted quinazoline-2,4-diamine Derivatives as inhibitors of Adenosine/Guanosine Nucleoside Hydrolase in Trichomoniasis

H.M

Aman Thawani (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Computational Solution of the Time-Independent Schroedinger Equation via a Finite Legendre Polynomial-based Spectral Expansion

Computational Biology and Bioinformatics

1ST

Tessla Chan (Roslyn High School)

Roslyn High School

Utilizing Deep-Learning to Facilitate Diagnosis of Look-Alike Leukemia Subtypes

2ND

Mannat V. Jain (Garden City High School)

Garden City High School

A Deep Learning Algorithm to Identify and Predict Tissue Abnormality in Fetal Ultrasounds.

3RD

Michael Ren (Syosset High School)

Syosset High School

Elucidating Resistance Mechanisms in Staphylococcus epidermidis: A High-Performing MALDI-TOF MS-Based Proteomic Approach for Predictive Modeling

H.M

Erin Wong (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Predicting Lobula Columnar Cell Responses in Drosophila

H.M

Matt Yang (W.C. Mepham High School)

W.C. Mepham High School

MultiFormer: Single-Cell ATAC to RNA Prediction Framework

Earth and Environment with Environmental Engineering

1ST

Yoav Zeev Muscal (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

Using Machine Learning Species Distribution Modeling as a Novel Approach to Efficiently Predict Forest Development Suitability

1ST

Dylan Yoon (Manhasset High School)

Manhasset High School

The Enhancement of a Novel 3D-Printed Electrodialysis Device through the Implementation and Optimization of Spacer Designs

1ST

Manfred Lim (Jericho High School)

Jericho High School

From Data to Insights: Understanding Global Soil Respiration Through Machine Learning

2ND

Allison Chen (Herricks High School)

Herricks High School

The Accelerated Retreat of Andean Glaciers: Using Google Earth Engine and Landsat Satellite Imagery to Quantify the Imminent Threat to Water Security in Andean Communities

2ND

Shuwei Chen (Manhasset High School), Sonali Patel (Manhasset High School)

Manhasset High School

Adapted Algae-Powered Photovoltaic Cells Remediate Microplastics From Water: A Cost-Effective and Sustainable Solution

2ND

Gunoo Shin (Smithtown High School West)

Smithtown High School West

Erosia: A Fully Digitally Focused Application to Accurately Compute Soil Erosion in a Raster Format via GIS Based on the Universal Soil Loss Equation.

2ND

Bradley Scott Kelton (Ward Melville High School)

Ward Melville High School

Geochronologic and Dynamic Constraints on the Topographic Evolution and Critical Mineral Deposits of the Southwestern United States

3RD

Andrew Michael Falco (Walter G. O'Connell Copiague High School)

Walter G. O'Connell Copiague High School

The Use of Pueraria montana in the Production of a Biodegradable Low Density Polyethylene Plastic

3RD

Emily Zhao (Manhasset High School)

Manhasset High School

Novel Eutrophication Remediation Turbine For Piezocatalytic Inactivation Of Anabaena In Optimized

Turbulent Flow

3RD

Dylan Jinghong Shen (Smithtown High School East)

Smithtown High School East

A Novel Algorithm for Measuring Forest Incursions Using Pixelated Remote Sensing Data

3RD

Tej Jonah Parekh (Paul D. Schreiber High School)

Paul D. Schreiber High School

Utilizing Artificial Intelligence for Categorizing Wildfire Origins through Satellite Image Analysis

3RD

Yujay An (Ward Melville High School)

Ward Melville High School

Understanding the Predictability of the U.S. Seasonal Surface Temperature with Convolutional Neural Networks Trained on CESM2 LENS

H.M

Stephanie Pizano (Brentwood High School)

Brentwood High School

The Development and Assessment of Anionic Resins for the Use in Mitigating Nitrogen in Sewage Drains and Agricultural Runoff

H.M

Oscar Wang (Syosset High School)

Syosset High School

Scale-Invariance of Trait Distribution Patterns in Tropical Trees: Consistency Across Spatial Scales

H.M

Alenna Lin (Ward Melville High School)

Ward Melville High School

AOP (Advanced Oxidation Process)/ARP (Advanced Reduction Process) for PFAS in Water Systems

H.M

Grace Kathryn Orr (Westhampton Beach High School)

Westhampton Beach High School

Calcium Hydroxide Enhances the Adaptive Ability of Coral Species E. Ancora, D. Actinodiscus, and M. Capricornis, Exposed to Decreased pH and Elevated Temperatures in an Ocean Simulated Environment

H.M

Bethany Marie Kosinski (Valley Stream South High School)

Valley Stream South High School

The Effect of Increased Oxygen and Temperature on Microalgae's Ability to Remove Phosphorous and Nitrogen From Water Samples

Embedded, Technology Arts, Technology Engineering, and Energy Sustainability

1ST

Michelle Luo (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Anisotropic Ion Transport Properties of Thin-Film Solid Polymer Electrolytes

1ST

James Nagler (Garden City High School)

Garden City High School

Project Vision - Assisted Navigation & Waypoint Positioning through 3D Mapping

2ND

Dylan Ann Cashin (East Hampton High School)

East Hampton High School

Saccharina latissima in biofuel production: Identifying the ideal water conditions and their effect in biofuel production through a chemical extraction method

3RD

Sarah Phinney (Garden City High School)

Garden City High School

Using an Intraoral Scanner to Extract and Evaluate Contours of Oboe Reeds

H.M

Vincent W. Huang (Syosset High School)

Syosset High School

An Aerodynamic Analysis of Blended-Wing Body Aircraft with Nonplanar Wing Geometry

Math, Physics and Astronomy

1ST

Arav Chand (Half Hollow Hills West)

Half Hollow Hills West

Extensions of Legendre's Formula and Fine's Theorem to the Fibonacci Factorial

2ND

Nora Kathleen Kane (Lynbrook Senior High School)

Lynbrook Senior High School

Analysis of Fourier Transforms Using a Combined Encoder-Decoder and Deep Neural Network Model: A Novel Method for Determining Chromaticity

3RD

Cayden Shen (Roslyn High School)

Roslyn High School

Using an Inexpensive Night Vision Camera as a Detector in NIR Spectroscopy

3RD

Benjamin Hongxuan Zhang (Ward Melville High School)

Ward Melville High School

Emulating Quenching in Galaxy Groups Using High-Resolution Cosmological Simulations

H.M

Ethan Cole Berkowitz (Roslyn High School)

Roslyn High School

The Strength of p -Coloring as a Knot Invariant

H.M

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

William A. Shine Great Neck South High School

Resolving the Constraints Imposed by Chiral Effective Field Theory and Perturbative Quantum Chromodynamics on the Neutron Star Equation of State

Microbiology and Biochemistry

1ST

Mehek Kaur Sawhney (Commack High School)

Commack High School

Secretion of the Francisella tularensis Protein FTL_1123 by Escherichia coli Containing the HlyBD Operon

2ND

Kiran Kaur Johar (Jericho High School)

Jericho High School

Determination and Analysis of Apolipoprotein-L1 Binding Site Nature with Partnering Isoforms to Treat APOLI-Mediated Kidney Dysfunction

3RD

Jayden Tucker Simon (John F. Kennedy High School)

John F. Kennedy High School

The Utilization of Metagenomics to Determine the Effects of Plastic Polymer Types and a Temporal Gradient on Microbial Communities

H.M

Zoe Naree Chinda (Bethpage High School)

Bethpage High School

Evaluating the Effects of Plasmid Copy Number and Size on Bacterial Host Cell Fitness

H.M

Nicole Kiaei (John L. Miller Great Neck North High School)

John L. Miller Great Neck North High School

The Binding Affinity of Python-Derived 16 α -Hydroxylated Bile Acid ‘Pythocholic Acid' to Human Bile Acid Receptors TGR5, FXR, and VDR

Plant Sciences

1ST

Leah Irene Fromm (East Hampton High School)

East Hampton High School

Growth promotion of hydroponic Lactuca sativa var. capitata and microgreen Raphanus sativus when exposed to Pseudomonas psychrotolerans consistently throughout the growth period

2ND

Jessica Mary Curran (Westhampton Beach High School)

Westhampton Beach High School

The Efficacy of Rhodophyta as a Seaweed Liquid Fertilizer through Okra and Arabidopsis Growth, Pigment Concentration, and Macronutrient/Micronutrient Distribution Using Tender Energy Spectroscopy

2ND

Lilly Sarah Horowitz (Jericho High School)

Jericho High School

The Role of DNA Methylation as an Epigenetic Silencing Mechanism of Ds1 and Ds2 Transposition in Maize

3RD

Ariella Joy Golbin (George W. Hewlett High School)

George W. Hewlett High School

Regulation of Mitogen-activated Protein Kinase Kinase 7 (MKK7) affects salt tolerance in the gametophytes of Ceratopteris richardii?

3RD

Meredith Margaret Browne (East Hampton High School)

East Hampton High School

Influence of mycorrhizal inoculants on mass, and water uptake in Lactuca sativa var. capitata under salt stress

H.M

Samuel Hsu (George W. Hewlett High School)

George W. Hewlett High School

A Matrix Metalloproteinase (MMP) Regulated By Salicylic Acid (SA) And Lipopolysaccharide (LPS) Plays An Integral Role In Prothallial Development Of Gametophytes Of Ceratopteris richardii

H.M

Cameron Oliver Mitchell (East Hampton High School)

East Hampton High School

Influence of common chemical phosphorus and nitrogen fertilizers with mycorrhizal fungi Rhizophagus and Glomus families on the growth of Pisum sativum legumes.

Robotics, Intelligent Machines and Software

1ST

Milan Lustig (Cold Spring Harbor High School)

Cold Spring Harbor High School

A Configurable Compiled Programming Language With Integrated Transpilation

2ND

Marcus Wu (Manhasset High School)

Manhasset High School

Optimizing Measurement Error Mitigation to Account for Cross-Talk Errors in Superconducting Quantum Computers

3RD

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

William A. Shine Great Neck South High School

CARe-BERT: BERT-Powered Graph Augmentation for Context-Aware Radiology Report Retrieval

H.M

Zabelle Bobelian (Cold Spring Harbor High School)

Cold Spring Harbor High School

Deep Neural Nets for Imaging Systems

H.M

Alex Lu (Manhasset High School), Johnny Liu (Manhasset High School)

Manhasset High School

Context Is All You Need: Learning Context-Based Emotional Nuances From Uncontextualized Labels

Translational Medical Science

1ST

Sophia Antonina Tarasenko (Jericho High School)

Jericho High School

Effects of Calcitriol on Menstrual Effluent-Derived Endometrial Stromal Cell Viability, Decidualization, and Proliferation

2ND

Caden Li (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Automated Volumetric Biomarker Segmentation and Combination for Superior ADPKD Progression Prediction using Machine Learning

3RD

Alex Chen (Syosset High School)

Syosset High School

*Evaluating the Neuroprotective Effects of Spearmint Oil in the *Caenorhabditis elegans* Model of Alzheimer's Disease*

H.M

Jonathan Zhu (Carle Place High School)

Carle Place High School

??Exploring the Potential Synergistic Antitumor Effect of L-Se-Methylselenocysteine and Sulforaphane on Human Cancer Cell Lines

H.M

Amy Hong Xiao (Garden City High School)

Garden City High School

A Novel Approach to Characterizing Pathogenicity of SLC25A13 Variants in Patients with Citrin Deficiency