Animal Sciences AND Plant Sciences

1ST

Sarah Kathryn Schubel (Smithtown High School East)

Smithtown High School East

Loss of NMDA Receptor Signaling Results in Excess Proliferation of CNS and Neural Crest-Derived Cells

1ST

Soyoun Moon (Commack High School)

Commack High School

Exploring Sexual Dimorphism and Sex Hormone Receptor Expression in the Bed Nucleus of the Stria Terminalis (BNST) in the Monogamous Prairie Vole

2ND

Madison Elias (Seaford High School)

Seaford High School

Can Green Tea Extend the Memory for Extinction Training in the Great Pond Snail (Lymnaea stagnalis)?

3RD

Rehan Mujahid Mian (Smithtown High School West)

Smithtown High School West

A study on the structure, function, and evolution of the ?1 and ?2 adrenoceptors in Nematostella vectensis, the starlet sea anemone.

H.M

Mariam Nadeem Hassan (Half Hollow Hills West)

Half Hollow Hills West

Effects of CCDC11 on Caudal Fin Regeneration in Danio rerio

H.M

Chelsea Paige Russo (Seaford High School)

Seaford High School

The Effects of the Non-Nutritive Sweeteners Acesulfame Potassium and Neotame on Anxiety in Planaria (Dugesia dorotocephala).?

H.M

Michelle Betty Brown (John F. Kennedy High School)

John F. Kennedy High School

The Concurrent Effects of Metformin and Dietary Restriction on Parkinson's Disease in a Drosophila melanogaster Model

Behavioral and Social Sciences

1ST

Han Byur (Hailee) Youn (Roslyn High School)

Roslyn High School

Why We Vote: How Positive Descriptive Norms and Holding a Minority Political Viewpoint Increase Citizens' Intention and Responsibility to Vote

1ST

Jacob Aaron Leshnower (Half Hollow Hills East)

Half Hollow Hills East

Music and Emotion: The Intervallic Fallacy of the Major-Minor Dichotomy

1ST

Kyle Arjun Kavully (Plainedge High School)

Plainedge High School

American Dream or American Myth? A Linear Regression Analysis of American Attitudes as a Factor of Race and Ideology

2ND

Angelina Marie Livigni (Paul D. Schreiber High School)

Paul D. Schreiber High School

Bad Medicine? An Analysis of Self-Advocacy Regarding Medical Malpractice Scenarios by High School Students

2ND

Leigh Baratta (Smithtown High School East)

Smithtown High School East

Beauty is in the Eye of the Beholder: The Impact of Beauty on Proliferation of Invasive Insect Species Lycorma delicatula, the Spotted Lanternfly

3RD

Emily Yeh (Roslyn High School)

Roslyn High School

The Effect of Genetically Modified Labeling of Plant and Animal Products on Consumer Perceptions

3RD

Eli Weseley-Jones (North Shore High School)

North Shore High School

Numeracy and the Communication of Medical Risk

3RD

Gabrielle Joy Oliva (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Impact of Ascribed Gender Stereotypes on Public Perceptions of Sexual Assault Victims

H.M

Katherine Yuan Wang (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

Assessing the Correlation between Perceived Parent-Child Relationship Quality and Executive Functioning in Early Adolescents

H.M

Siddharth Sandeep Desai (Syosset High School)

Syosset High School

Resting-state functional connectivity of the medial dorsal nucleus in First-Episode Psychosis and its role in working memory

H.M

Sabrina Guo (Syosset High School)

Syosset High School

Efficacy of Mask Use in Reducing SARS-CoV-2 Infection Rates

H.M

Abigail Lev (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

The Inadvertent Detrimental Effects of Caucasian Performative Activism on the Perceived Societal Marginalization of the African American Population

H.M

Hannah Paulina Brooks (Paul D. Schreiber High School)

Paul D. Schreiber High School

“The War in Words”: Effects of Demographic and Personal Differences on Reactions to Semantically Bleached Nazi Compounds

H.M

Olivia Ives Bailey (Garden City High School)

Garden City High School

Machine Learning Prediction and Analysis of COVID-19 Vaccine Rates by State

Biochemistry AND Microbiology

1ST

Lakxshanna Raveendran (Commack High School)

Commack High School

Characterizing the Secretion of the Francisella tularensis Protein FTL_1123

2ND

Collin Steve Lung (Lynbrook High School)

Lynbrook High School

In Silico Studies of Neonicotinoids with CYPs and nAChRs - Opportunities for the Design of Selective Pesticides

3RD

Tyler Daniel Nagosky (Smithtown High School West)

Smithtown High School West

Using Cnidarian nerve nets to visualize the excitotoxic effects of BMAA

H.M

Anika G Petruccelli (East Hampton High School)

East Hampton High School

Assessing the Potential of Phage Therapy to Combat Antibiotic Resistance with Mycobacterium smegmatis

H.M

Chloe Chang (Herricks High School)

Herricks High School

Investigating the Therapeutic Potential of Epigallocatechin Gallate and Theaflavin-3, 3′-digallate on Inhibiting ACE2-Spike Protein Binding and Mitigating Induced-Cellular Death by SARS-CoV-2

Biomedical and Health Sciences AND Biomedical Engineering

1ST

Griffin Hon (Syosset High School)

Syosset High School

Repurposed Cephalexin Causes Multifaceted Pro-cancer Effects by Way of Wnt Signaling Pathway

1ST

Christopher Prainito (John F. Kennedy High School)

John F. Kennedy High School

Development of a Polydiacetylene-Based Paper Biosensor for Naked-Eye Detection of COVID-19 in

Saliva

1ST

Natalia Pahlavan (Jericho High School)

Jericho High School

Automatic Diagnosis of the 12-lead Electrocardiogram: Cardiac Arrhythmia Detection Using a Deep Learning Approach

2ND

Maxx Yung (Roslyn High School)

Roslyn High School

Activation of the Mu-Opioid Receptor on the Renin-Angiotensin System and Its Role In SARS-CoV-2 Treatment and Pathology

2ND

Karly Chan (William A. Shine Great Neck South High School)

William A. Shine Great Neck South High School

A User-Friendly and Non-Invasive Vocal Therapy Progress Tracker

3RD

Stanley Kong (Manhasset High School)

Manhasset High School

Dicaffeoylquinic Acids Inhibit SARS-CoV-2 Spike Protein-Induced Apoptosis: An In Silico and In Vitro Implication of a Novel Treatment to Mitigate Infection and Vaccine Side Effects

3RD

Nathan Thomas Han (Syosset High School)

Syosset High School

Elucidating the Molecular Mechanisms of Toxicarioside A and Sulforaphene-Induced Colorectal Cancer Cell Death

3RD

Olivia May Platt (Paul D. Schreiber High School)

Paul D. Schreiber High School

Determining The Regulatory Role of UFD1 in MYCN-driven Neuroblastoma

H.M

Annette Park (North Shore High School)

North Shore High School

SARS-CoV-2 Spike Proteins Induce a Pro-Inflammatory Cytokine Response in Macrophages

H.M

Jessie Dong (Roslyn High School)

Roslyn High School

Luteolin Targets Neuroblastoma and Lymphoma via Mitochondrial Complex 1

H.M

Julie Theresa Moehringer (Sanford H. Calhoun)

Sanford H. Calhoun

Retinal Ganglion Cell Functional Recovery After Intraocular Pressure Lowering Treatment Using Prostaglandin Analogs In Glaucoma Suspects

H.M

Jeylin Elizabeth Lee (Herricks High School)

Herricks High School

The Effect of Prophylactically Prescribed Anticoagulants and Dose Regimen on Prevalence of Venous Thromboembolism After COVID-19 Diagnosis

H.M

Michael Khalfin (Plainview-Old Bethpage JFK High School)

Plainview-Old Bethpage JFK High School

Hemodynamics Model Illustrating Transradial Delivery of Anti-Tau Nanoparticle For Prodromal Alzheimer's Disease Intervention

Cellular and Molecular Biology

1ST

Miah Christina Margiano (St Anthony's High School)

St Anthony's High School

LncRNAs as a Potential Therapeutic Target for Neuroblastoma

2ND

Ethan Masyn Abelev (George W. Hewlett High School)

George W. Hewlett High School

The Role of Irisin in Human Reproduction

3RD

Andrew Lee (Jericho High School)

Jericho High School

A Cell-type-specific Expression and Protein Interaction Analysis to Identify Autism Risk Genes

3RD

Ethan Wang (Jericho High School)

Jericho High School

Gut microbiota and Alzheimer's disease: Investigating the role of copper and CCL11 dysregulation

H.M

Leo Zhang (Jericho High School)

Jericho High School

Investigation of Rutin on Benzene-treated U937: A Focus on TNF-α and Superoxides

H.M

Anneliese Margot Baum (George W. Hewlett High School)

George W. Hewlett High School

Profiling pathway dysregulation in ovarian and pancreatic cell lines upon the loss of CUL4 E3 Ligase activity using novel inhibitor KH-4-43

H.M

Benjamin Isaacson (Eastport South Manor Junior-Senior High School), Jane Brylewski (Eastport South Manor Junior-Senior High School), Fiona Schlegel (Eastport South Manor Junior-Senior High School)

Eastport South Manor Junior-Senior High School

Structural Determination of the Native form of tRNA Methyltransferase (TrmD) from Mycobacterium paratuberculosis subspecies avium

H.M

Sinchana Venkatesh (Herricks High School)

Herricks High School

Assessing the Ability of Vitexin in Mitigating Neuroinflammation in Alzheimer's Disease.

Chemistry AND Materials Science

1ST

Alex Lin Wang (Syosset High School)

Syosset High School

Computational Assessment of Macrocyclic Host-Guest Ion-Dipole Interactions with Negative Pores

2ND

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

William A. Shine Great Neck South High School

Rationalization of Simple Ring Intermolecular $\pi-\pi$ Stacking Interactions Investigated with DFT-d

3RD

Cathrine Efsun Sakin (Walter G. O'Connell Copiague High School)

Walter G. O'Connell Copiague High School

The Efficacy of Chitosan on the Construction and Function of Compostable Wind Turbine Blades

H.M

Paul Vincent Pillitteri (West Islip High School)

West Islip High School

Compositional Analysis of Oyster Shells Using Submicron Resolution X-Ray Spectroscopy

H.M

Samuel Philip Jacobson (Roslyn High School)

Roslyn High School

The Effectiveness of Self-Oscillating, Catalyzed Belousov-Zhabotinsky (BZ) Gel in Solving the Traveling Salesman Problem

Computational Biology and Bioinformatics AND System Software

1ST

Kevin Zhu (Jericho High School)

Jericho High School

Investigating Recurrent Repeat Contractions in 10 Human Cancers

1ST

Amber Kaixin Luo (Ward Melville High School)

Ward Melville High School

RiboBayes: Assessing the Transcriptome-wide Expression of Ribosome Pause Sites in Ribosome Profiling Data With Bayesian Wavelet Thresholding

2ND

Aaquib Ahmed Syed (Smithtown High School West)

Smithtown High School West

Non-invasively Guiding Breast Cancer Chemotherapy Using Machine Learning with GLCM Textural Analysis

3RD

David Liang (Ward Melville High School)

Ward Melville High School

Beyond the Scales: A physics-informed machine learning approach for more efficient modeling of SARS-CoV-2 spike glycoprotein

3RD

Shreya Kannan (Half Hollow Hills West), Bethany Siegel (Half Hollow Hills West), Marlene McKinney (Half Hollow Hills West)
Half Hollow Hills West
Development of a Chromotherapy-based Mobile Game for Stress and Mood Management
H.M
Chloe Chan (William A. Shine Great Neck South High School)
William A. Shine Great Neck South High School
Support Vector Machine for Autism Spectrum Characterization: Exploiting Brain Connectivities from fMRI, DWI, and a Combination of Both Modalities for Improved Diagnostic Accuracy
H.M
Wafiq Khondkar (Herricks High School)
Herricks High School
A Novel Framework for Evaluation and Parameter Tuning of Missing Value Imputation
H.M
Brian Song (Roslyn High School)
Roslyn High School
Detection of Northern Leaf Blight in Natural Environment Using Optimized YOLOv3

Earth and Environmental Sciences

1ST
Rebecca Cho (Jericho High School)
Jericho High School
Reconstruction modeling using tectonics and climate of western North America
1ST
Tarunika Sasikumar (Plainview-Old Bethpage JFK High School)
Plainview-Old Bethpage JFK High School
Assessing the Efficacy of the U.S Endangered Species Act through the Novel Quantification of Species

Charisma and Respective Population Trends

2ND

Dylan Maxwell D'Agate (Half Hollow Hills East)

Half Hollow Hills East

Climatological Impact of Sudden Stratospheric Warming Events on the Atmospheric Circulation and Nature of Extratropical Cyclones over Eastern North America

3RD

roberto Antonio Lopez (Brentwood High School)

Brentwood High School

EVALUATING PHRAGMITES AUSTRALIS WRACK ACCUMULATION IN A LONG ISLAND SALT MARSH ECOSYSTEM AND ASSESSING ITS EFFECT ON CARBON SEQUESTRATION, THE NITROGEN CYCLE, AND SEDIMENT BIOTA

H.M

Ricardo Lopez (Brentwood High School)

Brentwood High School

EVALUATING SALT MARSH RESTORATION AT SUNKEN MEADOW: ANALYSIS OF SEDIMENT LOSS AND ACCRETION.?? ??

H.M

Kiera McKenna Darnell (Paul D. Schreiber High School)

Paul D. Schreiber High School

Modelling coastal erosion using future hurricane scenarios

H.M

Kayla J Sohn (Herricks High School)

Herricks High School

Biologically Inspired Material Design for Selective Removal of Estradiol Water Contaminants

Embedded Systems AND Robotics and Intelligent Machines

1ST

James Nagler (Garden City High School)

Garden City High School

Project Vision - Virtual environment through AI recognition

2ND

Samay Lakhani (Jericho High School)

Jericho High School

Applying Spatiotemporal Attention to Identify Distracted and Drowsy Driving with Vision Transformers

3RD

Chigozirim Nodebechukwu Ifebi (Elmont Memorial)

Elmont Memorial

How to Train Your Multi-view Cloth Classifier

H.M

Kevin Holden Taylor (Paul D. Schreiber High School)

Paul D. Schreiber High School

Creating a “Third Eye” for the Visually Impaired with Object Detection

H.M

Sreenand Mallisetty (Hauppauge High School)

Hauppauge High School

Creating an Algorithm for a Handwritten Digit Recognition - Convolutional Neural Network Model by Optimizing Momentum, Weights, and Biases.

Energy: Sustainable Materials & Design AND Engineering Technology AND Environmental Engineering

1ST

Ava Malysa (Manhasset High School), Samantha Palmadessa (Manhasset High School)

Manhasset High School

Electrocoagulation with Aluminum, Copper, and Zinc Electrodes for Aqueous Methylene Blue Dye

Remediation and Sustainable Energy Production

1ST

Emily Kim (Jericho High School)

Jericho High School

Synergistic removal of RB5 by activated carbon under UV irradiation

2ND

Aavi Lund (East Meadow High School)

East Meadow High School

The Utilization of a Tilt-rotor Mechanism to Minimize Forward Flight Drag of an H-shaped Quadcopter for Delivery Drone Applications

3RD

Emily Theodosopoulos (Manhasset High School), Adam De Leeuw (Manhasset High School)

Manhasset High School

Engineering the optimal dye-sensitized solar cell by comparing anthocyanin and chlorophyll dyes, dye immersion time, and counter electrodes.

H.M

Ericka Lai (Manhasset High School), Christian Kim (Manhasset High School)

Manhasset High School

Simultaneous Azo Dye Removal and Bioelectricity Generation by an Up-Flow Constructed Wetland-Microbial Fuel Cell with Biochar Substrate

H.M

Allison Zhang (Manhasset High School)

Manhasset High School

Design of a Soft Robotic Gripper Inspired by the Seahorse Skeleton

Mathematics AND Physics and Astronomy

1ST

Daniel Salkinder (Half Hollow Hills East)

Half Hollow Hills East

nxnxn Rubik's Cubes and God's Number

2ND

Kailly Elizabeth Nocera (Seaford High School)

Seaford High School

Glacial and Fluvial Activity During Periods of High Obliquity in Arabia Terra

3RD

Alice Tianxin Wang (Half Hollow Hills East)

Half Hollow Hills East

A magic condition monochromator design for implementation at the NSLS-II

H.M

Zachary Finger (Smithtown High School East)

Smithtown High School East

Rare Isotope Production at the Electron Ion Collider

H.M

Katherine Ranjbar (Earl L. Vandermeulen High School (Port Jefferson))

Earl L. Vandermeulen High School (Port Jefferson)

Impact of Imperfection Spin Resonance Strength on Depolarization in RHIC

Translational Medical Science

1ST

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

William A. Shine Great Neck South High School

SmartClick: A Novel Automated Segmentation Tool for Medical Images with Interactive Optimization Capabilities Designed for Liver Cysts

2ND

Ethan Anthony Chiu (Syosset High School)

Syosset High School

Developing a Self-Formed Ectodermal Autonomous Multi-Zone Organoid Model using Human Stem Cells to Examine the Effect of Doxycycline Treatment on Uveal Melanoma.

3RD

Janice Rateshwar (Jericho High School)

Jericho High School

Novel Small Molecule IT-848* Treatment of Hematological Malignancies: IT-848-based Direct Inhibition of NF-κB and Combination Treatments

H.M

Jessica Guo (Ward Melville High School)

Ward Melville High School

Piperlongumine and Piperlonguminine Mitigate Rotenone Induced Neurotoxicity: Implications for a Novel Parkinson's Disease Treatment

H.M

Sana Saleem Nabi (Herricks High School)

Herricks High School

A Novel Assessment of Splenic Tissue Following Electrical Stimulation of the Dorsal Motor Nucleus of the Vagus in Murine Endotoxemia