



Brentwood High School

3RD

roberto Antonio Lopez (Brentwood High School)

Earth and Environmental Sciences

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)

Earth and Environmental Sciences

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

Commack High School

1ST

Soyoun Moon (Commack High School)

Animal Sciences AND Plant Sciences

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

1ST

Lakxshanna Raveendran (Commack High School)

Biochemistry AND Microbiology

Characterizing the Secretion of the Francisella tularensis Protein FTL_1123

Earl L. Vandermeulen High School (Port Jefferson)

H.M

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

Mathematics AND Physics and Astronomy

Impact of Imperfection Spin Resonance Strength on Depolarization in RHIC

East Hampton High School

H.M

Anika G Petruccelli (East Hampton High School)

Biochemistry AND Microbiology

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

East Meadow High School

2ND

Aavi Lund (East Meadow High School)

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

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

Eastport South Manor Junior-Senior High School

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)

Cellular and Molecular Biology

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

Elmont Memorial

3RD

Chigozirim Nodebechukwu Ifebi (Elmont Memorial)

Embedded Systems AND Robotics and Intelligent Machines

How to Train Your Multi-view Cloth Classifier

Garden City High School

1ST

James Nagler (Garden City High School)

Embedded Systems AND Robotics and Intelligent Machines

Project Vision - Virtual environment through AI recognition

H.M

Olivia Ives Bailey (Garden City High School)

Behavioral and Social Sciences

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

George W. Hewlett High School

2ND

Ethan Masyn Abelev (George W. Hewlett High School)

Cellular and Molecular Biology

The Role of Irisin in Human Reproduction

H.M

Anneliese Margot Baum (George W. Hewlett High School)

Cellular and Molecular Biology

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

Half Hollow Hills East

1ST

Daniel Salkinder (Half Hollow Hills East)

Mathematics AND Physics and Astronomy

nxn Rubik's Cubes and God's Number

1ST

Jacob Aaron Leshnower (Half Hollow Hills East)

Behavioral and Social Sciences

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

2ND

Dylan Maxwell D'Agate (Half Hollow Hills East)

Earth and Environmental Sciences

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

3RD

Alice Tianxin Wang (Half Hollow Hills East)

Mathematics AND Physics and Astronomy

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

Half Hollow Hills West

3RD

Shreya Kannan (Half Hollow Hills West), Bethany Siegel (Half Hollow Hills West), Marlene McKinney (Half Hollow Hills West)

Computational Biology and Bioinformatics AND System Software

Development of a Chromotherapy-based Mobile Game for Stress and Mood Management

H.M

Mariam Nadeem Hassan (Half Hollow Hills West)

Animal Sciences AND Plant Sciences

Effects of CCDC11 on Caudal Fin Regeneration in Danio rerio

Hauppauge High School

H.M

Sreenand Mallisetty (Hauppauge High School)

Embedded Systems AND Robotics and Intelligent Machines

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

Herricks High School

H.M

Jeylin Elizabeth Lee (Herricks High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

H.M

Sinchana Venkatesh (Herricks High School)

Cellular and Molecular Biology

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

H.M

Wafiq Khondkar (Herricks High School)

Computational Biology and Bioinformatics AND System Software

A Novel Framework for Evaluation and Parameter Tuning of Missing Value Imputation

H.M

Kayla J Sohn (Herricks High School)

Earth and Environmental Sciences

Biologically Inspired Material Design for Selective Removal of Estradiol Water Contaminants

H.M

Sana Saleem Nabi (Herricks High School)

Translational Medical Science

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

H.M

Chloe Chang (Herricks High School)

Biochemistry AND Microbiology

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

Jericho High School

1ST

Natalia Pahlavan (Jericho High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

1ST

Kevin Zhu (Jericho High School)

Computational Biology and Bioinformatics AND System Software

Investigating Recurrent Repeat Contractions in 10 Human Cancers

1ST

Rebecca Cho (Jericho High School)

Earth and Environmental Sciences

Reconstruction modeling using tectonics and climate of western North America

1ST

Emily Kim (Jericho High School)

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

Synergistic removal of RB5 by activated carbon under UV irradiation

2ND

Samay Lakhani (Jericho High School)

Embedded Systems AND Robotics and Intelligent Machines

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

3RD

Andrew Lee (Jericho High School)

Cellular and Molecular Biology

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

3RD

Ethan Wang (Jericho High School)

Cellular and Molecular Biology

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

3RD

Janice Rateshwar (Jericho High School)

Translational Medical Science

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

H.M

Leo Zhang (Jericho High School)

Cellular and Molecular Biology

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

John F. Kennedy High School

1ST

Christopher Prainito (John F. Kennedy High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

H.M

Michelle Betty Brown (John F. Kennedy High School)

Animal Sciences AND Plant Sciences

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

Lynbrook High School

2ND

Collin Steve Lung (Lynbrook High School)

Biochemistry AND Microbiology

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

Manhasset High School

1ST

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

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

Electrocoagulation with Aluminum, Copper, and Zinc Electrodes for Aqueous Methylene Blue Dye Remediation and Sustainable Energy Production

3RD

Stanley Kong (Manhasset High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

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

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

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)

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

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)

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

Design of a Soft Robotic Gripper Inspired by the Seahorse Skeleton

North Shore High School

3RD

Eli Weseley-Jones (North Shore High School)

Behavioral and Social Sciences

Numeracy and the Communication of Medical Risk

H.M

Annette Park (North Shore High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

Paul D. Schreiber High School

2ND

Angelina Marie Livigni (Paul D. Schreiber High School)

Behavioral and Social Sciences

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

3RD

Olivia May Platt (Paul D. Schreiber High School)

Biomedical and Health Sciences AND Biomedical Engineering

Determining The Regulatory Role of UFD1 in MYCN-driven Neuroblastoma

H.M

Kiera McKenna Darnell (Paul D. Schreiber High School)

Earth and Environmental Sciences

Modelling coastal erosion using future hurricane scenarios

H.M

Kevin Holden Taylor (Paul D. Schreiber High School)

Embedded Systems AND Robotics and Intelligent Machines

Creating a "Third Eye" for the Visually Impaired with Object Detection

H.M

Hannah Paulina Brooks (Paul D. Schreiber High School)

Behavioral and Social Sciences

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

Plainedge High School

1ST

Kyle Arjun Kavully (Plainedge High School)

Behavioral and Social Sciences

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

Plainview-Old Bethpage JFK High School

1ST

Tarunika Sasikumar (Plainview-Old Bethpage JFK High School)

Earth and Environmental Sciences

Assessing the Efficacy of the U.S Endangered Species Act through the Novel Quantification of Species Charisma and Respective Population Trends

3RD

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

Behavioral and Social Sciences

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

H.M

Michael Khalfin (Plainview-Old Bethpage JFK High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

H.M

Abigail Lev (Plainview-Old Bethpage JFK High School)

Behavioral and Social Sciences

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

Roslyn High School

1ST

Han Byur (Hailee) Youn (Roslyn High School)

Behavioral and Social Sciences

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

2ND

Maxx Yung (Roslyn High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

3RD

Emily Yeh (Roslyn High School)

Behavioral and Social Sciences

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

H.M

Jessie Dong (Roslyn High School)

Biomedical and Health Sciences AND Biomedical Engineering

Luteolin Targets Neuroblastoma and Lymphoma via Mitochondrial Complex I

H.M

Samuel Philip Jacobson (Roslyn High School)

Chemistry AND Materials Science

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

H.M

Brian Song (Roslyn High School)

Computational Biology and Bioinformatics AND System Software

Detection of Northern Leaf Blight in Natural Environment Using Optimized YOLOv3

Sanford H. Calhoun

H.M

Julie Theresa Moehringer (Sanford H. Calhoun)

Biomedical and Health Sciences AND Biomedical Engineering

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

Seaford High School

2ND

Kailly Elizabeth Nocera (Seaford High School)

Mathematics AND Physics and Astronomy

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

2ND

Madison Elias (Seaford High School)

Animal Sciences AND Plant Sciences

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

H.M

Chelsea Paige Russo (Seaford High School)

Animal Sciences AND Plant Sciences

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

Smithtown High School East

1ST

Sarah Kathryn Schubel (Smithtown High School East)

Animal Sciences AND Plant Sciences

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

2ND

Leigh Baratta (Smithtown High School East)

Behavioral and Social Sciences

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

H.M

Zachary Finger (Smithtown High School East)

Mathematics AND Physics and Astronomy

Rare Isotope Production at the Electron Ion Collider

Smithtown High School West

2ND

Aaquib Ahmed Syed (Smithtown High School West)

Computational Biology and Bioinformatics AND System Software

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

Analysis

3RD

Rehan Mujahid Mian (Smithtown High School West)

Animal Sciences AND Plant Sciences

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

3RD

Tyler Daniel Nagosky (Smithtown High School West)

Biochemistry AND Microbiology

Using Cnidarian nerve nets to visualize the excitotoxic effects of BMAA

St Anthony's High School

1ST

Miah Christina Margiano (St Anthony's High School)

Cellular and Molecular Biology

LncRNAs as a Potential Therapeutic Target for Neuroblastoma

Syosset High School

1ST

Griffin Hon (Syosset High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

1ST

Alex Lin Wang (Syosset High School)

Chemistry AND Materials Science

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

2ND

Ethan Anthony Chiu (Syosset High School)

Translational Medical Science

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

Nathan Thomas Han (Syosset High School)

Biomedical and Health Sciences AND Biomedical Engineering

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

H.M

Siddharth Sandeep Desai (Syosset High School)

Behavioral and Social Sciences

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)

Behavioral and Social Sciences

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

Walter G. O'Connell Copiague High School

3RD

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

Chemistry AND Materials Science

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

Ward Melville High School

1ST

Amber Kaixin Luo (Ward Melville High School)

Computational Biology and Bioinformatics AND System Software

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

3RD

David Liang (Ward Melville High School)

Computational Biology and Bioinformatics AND System Software

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

H.M

Jessica Guo (Ward Melville High School)

Translational Medical Science

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

West Islip High School

H.M

Paul Vincent Pillitteri (West Islip High School)

Chemistry AND Materials Science

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

William A. Shine Great Neck South High School

1ST

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

Translational Medical Science

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

2ND

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

Biomedical and Health Sciences AND Biomedical Engineering

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

2ND

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

Chemistry AND Materials Science

Rationalization of Simple Ring Intermolecular π - π Stacking Interactions Investigated with DFT-d

H.M

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

Computational Biology and Bioinformatics AND System Software

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

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

Behavioral and Social Sciences

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