

2021 WAC Lighting Foundation Science Fair Awards

Category I - General Biology

Award	Full Name	School Name	Project Title
1st Place	Jeremy Kotlyar and Daniel Pun	Great Neck South High School	Treatment of <i>D. tigrina</i> with Calcium Chloride as a Novel Method of Inhibiting Rapid Excessive Voltage-gated Sodium Channel Firing
1st Place	Erin Yim and Karly Chan	Great Neck South High School	The effects of apigenin on the aberrantly activated Wnt pathway in planaria <i>Dugesia dorotocephala</i>
2nd Place	Joonhyuk Ko	Great Neck South High School	The Effects of Aspartame and Saccharin on The Weight - Mobility - and Lifespan of <i>Drosophila</i> On A High Fat Diet As A Model For Obesity
3rd Place	Dana Kagan and Luke Boyar	Great Neck South High School	Assessing the effect of polyethylene microplastics on overall Planaria health and function
3rd Place	Natalia Pahlavan	Jericho High School	AcuRe: Third-Generation Machine Learning Cancer Detection Model Using Nanopore Read Alignments
Honorable Mention	Anshula Agrawal	Jericho High School	Pimasertib and SAR405838 drug effects on genes regulation in non small cell lung cancer (NSCLC)
Honorable Mention	Robin Hwang & Justin Davitashvili	Commack High School	Various Phylogenetic Analyses for SARS-COV-2 and their Effect on Symptom Variance Based on Geographical Region
Honorable Mention	Andrew Lee	Jericho High School	What's the Difference? Gene Enrichment: Autism - Rett Syndrome - and Intellectual Disability
Honorable Mention	Harshita Sehgal	Roslyn High School	Understanding the Evolutionary Development of Radio-Resistance in the <i>A. thaliana</i>
Honorable Mention	Victoria Yang	Manhasset High School	The Effect of Sleep Deprivation on Memory in <i>Armadillidium vulgare</i>

2021 WAC Lighting Foundation Science Fair Awards

Category II - Biochemistry and Molecular Biology

Award	Full Name	School Name	Project Title
1st Place	Anagha Khandelwal	Jericho High School	Residue Interaction Networks and Template-Based Prediction Protein Modeling: Analysis of the MS Protein Family
3rd Place	Vyom Shah	Jericho High School	Linking Diet and Cancer: Arachidonic Acid Augments Stemness via Canonical Wnt and Hippo Signaling
Honorable Mention	Kiera Spahn	Commack High School	Increased Hepatic Expression of COL I and COL III Genes in a Model of Nonalcoholic Steatohepatitis with Fibrosis; A Call for Targeted Therapy
Honorable Mention	Ethan Wang	Jericho High School	Analysis of ATP7B Variants on Alzheimer's Disease
Honorable Mention	Chapin Zerner	Commack High School	Using Machine Learning to Predict Features Related to the Adaptive Immune Response in COVID-19

Category III - Medicine and Health

Award	Full Name	School Name	Project Title
1st Place	Nathan Han	Syosset High School	The Effects of Toxicarioside A and Sulforaphene on Colorectal Cancer and Neuroblastoma
1st Place	Shreya Motaganahalli	Syosset High School	Using Machine Learning Algorithms to Predict Probability of Heart Failure in Cardiovascular Disease Patients
1st Place	Lucy Zha	The Wheatley School	Curcumin and Capsaicin Synergistically Suppress Neuroblastoma Tumor Development
2nd Place	Sabrina Chen	Syosset High School	Evaluating the effects of statins on the progression of age-related macular degeneration (AMD): a systematic review and meta-analysis

2021 WAC Lighting Foundation Science Fair Awards

2nd Place	Ethan Chiu	Syosset High School	Investigating uveal melanoma using a Seurat scRNA-seq analysis of differentiated SEAM organoid gene clusters.
2nd Place	Eden Katz & Zining Chen	Great Neck South High School	A new font aimed to reduce text crowding to improve reading speed in macular degeneration patients.
2nd Place	Yuni Kim	Syosset High School	Evaluation of in silico algorithms for variant classification in clinically actionable Papillary Thyroid Carcinoma variants
3rd Place	Grace Papazoglou & Faith Papazoglou	Commack High School	Correlation between Cholesterol and Alzheimer's Disease
3rd Place	Samantha Radinsky	Paul D. Schreiber High School	The role of bone lineage cells during digit tip regeneration in adult mice
3rd Place	Justin Shen	Jericho High School	L-Theanine: Neuroprotective Against Trichloroethylene-induced Parkinson's Disease Hallmarks
3rd Place	William Xu	Roslyn High School	The Effects of GA-A and CDC on HTB-11 Cells
3rd Place	Camryn Neches	Paul D. Schreiber High School	Viable Protein Replacements for NPC1 among Cholesterol Transporters- Deriving a Gene-Based Ebola Treatment
Honorable Mention	Laura Chu	Roslyn High School	Novel Combinations of Plant Bioactive Chemicals Enhance Lenalidomide's Efficacy against Colon Cancer Cells as Measured by Apoptosis - Migration - and Immune Regulation
Honorable Mention	Jaideep Grewal	Roslyn High School	Future of Medicine? Perceptions and Applications of Telemedicine between Doctors and Patients amid Covid-19 Pandemic.
Honorable Mention	Chae Eun (Hannah) Lee	Paul D. Schreiber High School	Effectiveness of Acupuncture - Radiofrequency Ablation - & Ozone Therapy on Chronic Low Back Pain & Knee Pain
Honorable Mention	Lucas Milgrim	Paul D. Schreiber High School	Effects of Neuromodulatory drugs on the action potentials of Acheta Domesticus
Honorable Mention	Eshani Mukherjee & Samantha Singh	Commack High School	The affect of Parkinson Disease on Circadian Rhythm

2021 WAC Lighting Foundation Science Fair Awards

Honorable Mention	Janice Rateswar	Jericho High School	Direct Inhibition of NF- κ B Subunits by 9-chloro-8-(hexyloxy)-2H-chromeno[2,3-d]pyrimidine-2,4(3H)-dione (IT-848)
Honorable Mention	Lydia Wang & Katherine Wang	Great Neck South High School	Evaluating the Correlation between Ambient Air Pollutants and Alzheimer's Disease Mortality

Category IV - Behavioral and Social Sciences

Award	Full Name	School Name	Project Title
1st Place	Luke Christenson	Roslyn High School	The Relationship Between Diction in Student Scientific Abstracts and Success in Competition.
1st Place	Emily Yeh	Roslyn High School	The Attitudes of Participants Towards Different Types of Genetically Modified Products
2nd Place	Natalia Hakimi	Roslyn High School	The Effect of Wording - Political Party Affiliation - and Source on Perception of the Covid-19 Vaccine and Intent to Obtain the Covid-19 Vaccine
2nd Place	Timothy Wang	Roslyn High School	Students' Attitudes Towards Different Proposed Physical Education Classes
2nd Place	Han Byur (Hailee) Youn	Roslyn High School	To Vote or Not to Vote--The Effect of Descriptive Norms on Intention to Vote
3rd Place	Maya Slobin & Sarah Hershenhorn	Great Neck North High School	A New Era of Education: The Relationship Between Attitudes Toward Remote Learning - Educational Motivations - and Recreational Screen Time of Students.
3rd Place	Sabrina DePaulis and Ziya Jiwani	Great Neck South High School	Evaluating the extent to which social-cognitive career factors correlate with an interest in STEM- related careers in high school students.
3rd Place	Sabrina Guo	Syosset High School	Efficiency of Mask-wearing on Preventing Transmission of COVID-19
3rd Place	Yasmine Kaplan	Roslyn High School	The effect of communal or agentic traits on vote choice

2021 WAC Lighting Foundation Science Fair Awards

3rd Place	Meiling Laurence and Olivia Platt	Paul D. Schreiber High School	Analyzing the Effect of Exposure to COVID-19 Misinformation on Health Behaviors
3rd Place	Bennett Levine	Roslyn High School	Can you stay Social and Distant: An Analysis of the Living - Learning - and Mental Health of High Schoolers during COVID-19
3rd Place	Brooke Williams	Roslyn High School	The Impact of Race on the Perception of Credibility in Cases of Workplace Sexual Harassment
Honorable Mention	Amaar Alwani and Tristan Atreides	Great Neck South High School	Effects of Synchronous Online Classrooms on Cognitive - Behavioral - and Emotional Engagement as Compared to a Hybrid Learning Model
Honorable Mention	Katrina Chou and Avery Deng	Great Neck South High School	Evaluating the Correlation Between Media Multitasking and the Different Types of Attention Span
Honorable Mention	Maya Groothuis	Roslyn High School	Climate change action: How does efficacy play a role?
Honorable Mention	Annabelle Hohne & Katerina Efthymiou	Commack High School	Policing and Crime Deterrence- The Relationship Between Number of Police Officers Per Capita and Violent Crime
Honorable Mention	Ethan Kessler	Roslyn High School	Racial Stereotypes of Athletes
Honorable Mention	Trevor Kim	Roslyn High School	The effect of names on employment: analysis of occupational stereotypes
Honorable Mention	Samuel Lurvey	Great Neck South High School	The impact of subliminal priming with negative emotional valence on brand choice
Honorable Mention	Hailey Margulies	Roslyn High School	Behind the Mask: How Does the Perception of Masks Affect the Public's Compliance with the CDC's Mask Recommendations and the perceived risk of COVID-19?
Honorable Mention	Talya Pecullan	Paul D. Schreiber High School	Predicting Trends in COVID-19 Parental Vaccine Hesitancy in Nassau County
Honorable Mention	Sara Plunkett	Manhasset High School	The Impact of Age - Wealth - and Urban Living Percentage on COVID-19 Mortality Rates.
Honorable Mention	Liam Regan	Paul D. Schreiber High School	The Adverse Effects of D-Glucose (Dextrose) on Spatial Memory in an Animal Model

2021 WAC Lighting Foundation Science Fair Awards

Honorable Mention Michele Shleimovich Syosset High School Corporate Political Transparency

Honorable Mention Chloe Zelenitz Syosset High School The effects of social isolation due to COVID-19 on substance abuse rates in 2020

Category V - Chemistry

Award	Full Name	School Name	Project Title
1st Place	Amy Liu	Commack High School	Analyzing Phosphorus-doped Carbon Nanotubes to Maximize Hydrogen Storage Capacity
2nd Place	Edward Lee	Manhasset High School	The Voltaic Pile
Honorable Mention	Edgar Ma	Jericho High School	Improving CO2 hydrogenation: Treatments for bimetallic Fe-Co catalysts
Honorable Mention	Bowen Wu	Manhasset High School	the effect of beetroot juice on the freezing point of water.

Category VI - Earth and Environmental Sciences

Award	Full Name	School Name	Project Title
1st Place	Brian Liang	Manhasset High School	The Effect of a Dual Axis Solar Tracking System and a Single Axis Solar Tracking System on the Efficiency of a Photovoltaic Solar Cell
2nd Place	Rebecca Cho	Jericho High School	North Atlantic Subtropical High Associations with Tropical Cyclone Movement and Precipitation
2nd Place	Sanjit Gunasekaran & Michael Jang	Commack High School	Calculating Dvorak T-Numbers Using An Image-Based Machine Learning Algorithm
3rd Place	Amelia Abell	Paul D. Schreiber High School	The effects of different methods of applying caffeine on plant growth and germination
3rd Place	Kristen DiConza	Manhasset High School	The Application of Exogenous Substances to Ameliorate Salinity Stress in Lettuce

2021 WAC Lighting Foundation Science Fair Awards

3rd Place	Benjamin Punzalan	Manhasset High School	Comparison of Production of Distilled Water for Different Peltier Tile-Coupled Solar Still Designs
3rd Place	Danielle Seidman & Kayla Caplin	Paul D. Schreiber High School	The Relationship of Harmful Algal Blooms in NYS and Human-Environmental Interaction Through a Timeline Model
3rd Place	Alicia Sun	Great Neck North High School	Evaluating the Impact of Ocean Acidification on Existing Aquatic Ecosystems
3rd Place	Emily Theodosopoulos	Manhasset High School	The Effect of Angle Tilting and Wind Velocity on Power Output of Prefabricated Silicon Solar Cells
Honorable Mention	Emma Azevedo	The Wheatley School	The Effect of NaCl Concentrations on Chlorophyll Concentration and Growth of <i>S. lycopersicum</i> and <i>P. vulgaris</i>
Honorable Mention	Kiera Darnell and Emily Benson-Tyler	Paul D. Schreiber High School	Using the UFORE i-Tree model to analyze surface space in relation with air pollution and predicting the monetary and health benefits of additional urban forests
Honorable Mention	Brianna Han	Commack High School	Markov Chain Monte Carlo Methods for Estimating Rainfall Rate from Dual-Polarization Weather Radar
Honorable Mention	Steven Homenides & Yashica Kumar	Commack High School	The Impact of the Japanese Celebration of Midsummer Day of the Ox on the Nitrate Levels at the Conowingo Dam in Northern Maryland
Honorable Mention	Wilson Hu	Manhasset High School	The Development of Machine Learning Models to Forecast Energy Output of Wind Turbines
Honorable Mention	Kayla Liu	Manhasset High School	The use of recycled seashells to reduce ocean acidification-induced CaCO ₃ coral reef dissolution

2021 WAC Lighting Foundation Science Fair Awards

Honorable Mention	Alexander Voses & Harvey Long	Great Neck South High School	The Effects of a Combined Treatment of Melatonin and Ascophyllum Nodosum Extract on Drought Stress in Soybeans
--------------------------	----------------------------------	---------------------------------	--

Category VII - Physics and Astronomy

Award	Full Name	School Name	Project Title
1st Place	Richard Ren	Jericho High School	High-efficiency scattering probe design for s-polarized near-field microscopy
2nd Place	Shifan He	Great Neck North High School	A Physical Analysis of Color Variations in the Moon
2nd Place	Renee Zbizika	Great Neck North High School	Machine Learning Categorization of Stars: Binary Classification Based on Predicted Habitability of Exoplanets
3rd Place	Alexander Demetriades	Manhasset High School	The Effect of Winglets and Wing Shape on Lift
Honorable Mention	Nikita Soleymani & Carolina Swiatkowska	Great Neck North High School	A Contact-Free Medical Diagnostic Smart Mirror Prototype to Combat the Spread of COVID-19 using Machine Learning
Honorable Mention	Will Wesson	Manhasset High School	The Effect of Virus Protection on Individuals with Hearing Loss
Honorable Mention	Christopher Yang	Great Neck North High School	An Analysis of the Relationship Between the Period and Range of Brightness of Intrinsic Variable Stars R Lyre - R Crux - and T Cetus
Honorable Mention	David Zeng	Great Neck North High School	Determining the Educational Viability of Parallax Measurements of Asteroids for High School Curricula

2021 WAC Lighting Foundation Science Fair Awards

Category VIII - Engineering

Award	Full Name	School Name	Project Title
1st Place	Harrison Weinberg	Great Neck South High School	Engineering an inexpensive buoy for the detection of oil pollutants in the marine environment
2nd Place	Sangeon Park, Eric Pei & Johann Lee	Great Neck South High School	Construction of a Novel Automatic Bone Drilling Assist System
3rd Place	Lindsay Fabricant	Roslyn High School	The Effect of the Spirit Bomb Origami Design on the Grasping Capability of a Pneumatic Soft Robotic Gripper
3rd Place	Paul Park	Manhasset High School	Developing a pill dispenser to provide pharmaceutical aid for senior citizens
3rd Place	Matthew Pierre-Louis	Paul D. Schreiber High School	Development of an Automated Small-Scale Insulin Production Device
Honorable Mention	Hope Lane	Paul D. Schreiber High School	Optimizing the Interconnectivity of the Liver Allocation Network to Minimize Death and Inequality using LivSim
Honorable Mention	Maddox Nesterczuk	Manhasset High School	The Effect of Different Wind Turbine Blade Designs on the Overall Efficiency of a Small Wind Turbine
Honorable Mention	Dylan Patel	Jericho High School	Novel Solar Drone Technology To Aid In Tracking Wildfires
Honorable Mention	Neal Sodhi	Great Neck South High School	A Contact-Free Medical Diagnostic Smart Mirror Prototype to Combat the Spread of COVID-19 using Machine Learning
Honorable Mention	Kevin Zhang and Jack Lenga	Great Neck South High School	Optimizing the Efficiency of Photovoltaic Cells through Modified 3D Structural Arrangement
Honorable Mention	Han Zheng	Great Neck North High School	Freshwater by Sunlight: Improving the Productivity of a Single Slope Solar Still

2021 WAC Lighting Foundation Science Fair Awards

Category IX - Computer Science and Modeling

Award	Full Name	School Name	Project Title
1st Place	Lily Li	Jericho High School	Know Your Sources: Evaluating Web Credibility to Automate Fact-Checking Using Deep Learning
1st Place	David Wang	Syosset High School	An Interpretable Autism Spectrum Disorder Diagnostic Tool with Machine Learning
2nd Place	Owen Edelstein	Roslyn High School	Identifying Pancreatic Adenocarcinoma-Causing Proteins with Protein-Protein Interaction Networks through Machine Learning
2nd Place	John Xie & Sana Merchant	Great Neck South High School	Creating a Fake News and Clickbait Detection Program using Natural Language Processing and Metadata
3rd Place	Alice Chen	Jericho High School	MRgRT and delta radiomics: Early prediction of survival in pancreatic cancer
3rd Place	Catherine Kim	Jericho High School	Novel Prediction of Adverse Drug Reactions and Underlying Pathological Mechanisms via Hierarchical Classification
3rd Place	Rachel Lee	Manhasset High School	Decontamination of Single Cell RNA-seq Data Using Mixture Models and Clustering
3rd Place	Collin Li	Great Neck South High School	Accurate Bluetooth Proximity Estimation with Machine Learning Algorithm for Private Automated Contact Tracing to limit the spread of COVID-19
3rd Place	Elon Litman	Great Neck North High School	SpykeCVA: A Deep Spiking Neurogenetic System for Early Contraindicationless Stroke Diagnosis Using 4D Spatio-and Spectro-temporal Data
3rd Place	Davesh Valagolam	Jericho High School	Monitoring and Diagnosing Pathological Tremors: Mobile and Neural Network Technology
Honorable Mention	Rohan Ghotra	Syosset High School	Modeling Transcription Factor Binding Sites with Highly Interpretable Convolutional Attention Neural Networks
Honorable Mention	Lakshanna Raveendran & Melina Nicou	Commack High School	Deep Convolutional Neural Networks for Lesion Identification and Grading of Diabetic Retinopathy
Honorable Mention	Kevin Taylor	Paul D. Schreiber High School	Creating a Haptic Shoe for the Visually Impaired

2021 WAC Lighting Foundation Science Fair Awards

Honorable Mention	Trinity Wu	Great Neck North High School	Facial Detection of Masked Crowds Using a Multi-task Cascade Convolutional Neural Network
Honorable Mention	Caroline Yoon	Manhasset High School	Predicting COVID-19 using Pathway Network-based Models