



Connecticut Science & Engineering Fair

Quinnipiac University

March 7 - 19, 2022

Special Award Winners

These judging results are unaudited by the fair's Database Committee. The CSEF reserves the right to correct the listings.

The Award Ceremonies will be virtual on March 19, 2022.
A YouTube link will be posted before the ceremonies @ ctsciencefair.org.

[SchTown] [School] [Teacher]
 [Proj#] [FCat] [Project Title]

Avon	Avon Old Farms School	Dan Ismailescu	6024	PS	On the smallest (n-1)-gon containing a convex n-gon	Student(s) Keun Hyong Kwak	Grade 11	Town Gangnam-gu
Avon	Farmington Valley Academy Montessori	Bobbi Jo Woodbury	2505	L8	Potential Single-Use Plastic Substitute	Student(s) Sean Leahy	Grade 8	Town Simsbury
Avon	Talcott Mountain Academy	Brigette Zacharczenko	2019	L7	How Ocean Acidification Affects Shelled Marine Life	Student(s) Rhea Doshi	Grade 7	Town Farmington
Avon	Talcott Mountain Academy	Brigette Zacharczenko	2018	L7	Well-being in middle schoolers using intervention strategies	Student(s) Nandini Panigrahi	Grade 7	Town west hartford
Avon	Talcott Mountain Academy	Lydia Gibb	5525	P8	Pellet-"O"-Trap: Capturing Plastic Pellets Through a Multi-Filter System & Analyzing Their Progression Using Binary Image Processing	Student(s) Sia Reddy	Grade 8	Town Avon
Avon	Talcott Mountain Academy	Anya Jensen	2515	L8	The RightSwitch: An Automatic Light Switch Sterilization Device	Student(s) Samuel Wu	Grade 8	Town Avon
Bozrah	Fields Memorial School	Mr.Fish	5521	P8	Alerting Drivers That a Child was Forgotten in a Vehicle With a Circuit Sequence Alert System (CSAS)	Student(s) Andrew Pagnotta	Grade 8	Town Bozrah
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	3007	LS	Using Prytheruem extract from Chrysanthemum cinerariifolium as a natural insecticide against Grylloidea	Student(s) Albert Capodanno	Grade 12	Town Fairfield
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	3061	LS	A novel mitigation technique to control the spread of the invasive Spotted Lanternfly (L. Delicatulula) through cardiac glycoside extracts	Student(s) Cooper Carr	Grade 12	Town Fairfield
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	3002	LS	Quantifying the interspecific impacts of the native relationships of the Long Island Sound	Student(s) Sarah Davis	Grade 12	Town Trumbull
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	6063	PS	Utilizing Rooftop Gardens as a Means of Geothermal Energy Through Ground to Air Heat Transfer Systems	Student(s) Aidan King	Grade 12	Town Milford

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Bridgeport John Winthrop School Ms. Beres

2516 L8 Which Filtration Material Leads to the Best Drinking Water?

Student(s) Wayne Lewis

Grade 8 Town Bridgeport

Bridgeport Waltersville School John Cunningham

4012 PT Does Potato Variety Affect Electrical Output in a Potato Battery?

Student(s) Luna Santiago

Grade 8 Town BRIDGEPORT

Delani Bailey

Grade 8 Town Bridgeport

Cheshire Cheshire High School Julie Barker

6030 PS How Raspberry Pi Microcomputers and Computer Vision Artificial Intelligence Can Be Utilized to Provide Aid to the Visually Impaired Community

Student(s) Siddhant Bhardwaj

Grade 11 Town Cheshire

Cheshire Dodd Middle School Clare Gonzalez

5509 P8 A Domestic Violence Alerting Device Comprised of an Analog Sound Level Meter OLED Display and iOS Mobile App built using Swift

Student(s) Suchita Srinivasan

Grade 8 Town Cheshire

Cheshire St. Bridget School Michelle. Carroll

5011 P7 Coding an Affordable Goat Identification System for All Farmers

Student(s) Avery Fowler

Grade 7 Town Cheshire

Cheshire St. Bridget School Mrs. Michelle Carol

5504 P8 Electrolyte Challenge

Student(s) Hailey Greasley

Grade 8 Town Naugatuck

Danbury Henry Abbott Technical High School andrew ipkovich

3048 LS ways to safely provide lightening service to cosmetology customers using safer chemicals or organic products

Student(s) Ruth Pacheco

Grade 11 Town danbury

Danbury Westside Middle School Academy Jon Neuhausel

5510 P8 The Effects of Ice Mitigation Strategies on Livestock Waterers

Student(s) Sophia Blumenreich

Grade 8 Town Danbury

Danbury Westside Middle School Academy Jon Neuhausel

5514 P8 Model System Design For Technology-Assisted Insulin Regulation

Student(s) Sydney Borst

Grade 8 Town Danbury

Danbury Westside Middle School Academy Jon Neuhausel

4013 PT Benefit of Granular and Mesh Filters on Concentrations of Microplastics in Water

Student(s) Krrish Brahmshatriya

Grade 8 Town Danbury

Benjamin Miller

Grade 8 Town Danbury

Alexander Herzegovitch

Grade 8 Town Danbury

Danbury Westside Middle School Academy Jonathan Neuhausel

5009 P7 Impact of prediction methods on the percentage accuracy of a stock forecast.

Student(s) Alejandro Mayorga

Grade 7 Town Danbury

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Danbury	Westside Middle School Academy	Jon Neuhausel	5501	P8	The effect that hours of the night have on magnitude per square arcsecond on a sky quality meter	Student(s) David Miller	Grade 8	Town Danbury
Danbury	Westside Middle School Academy	Jonathan Neuhausel	5505	P8	Design and Testing of an Integrated 360 Degree Pi Camera System for Deep Well Rescue Mission	Student(s) Sandhya Sudarsanam	Grade 8	Town Danbury
Darien	Darien High School	David Lewis	3097	LS	The effect of microplastic ingestion on the health of parasites (<i>Cryptocotyle lingua</i>) in periwinkles (<i>Littorina littorea</i>).	Student(s) Alison Enters	Grade 12	Town Darien
Darien	Darien High School	David Lewis	6071	PS	Cloud Identification in Mars Daily Global Maps with Deep Learning	Student(s) Sebastian Mengwall	Grade 12	Town Darien
Ellington	Ellington Middle School	Scott Raiola	5007	P7	Wall climbing soft robot	Student(s) Thomas Gerlach	Grade 7	Town Ellington
Enfield	Chiaravalle Academy	Mrs. Quinby	1008	LT	How music affects pill bugs behaviors.	Student(s) Anna Burnham Hadley Buttrey	Grade 7 Grade 7	Town Suffield Town Windsor
Enfield	Chiaravalle Academy	Timothy Coleman	1014	LT	Sodium Bicarbonate as a Cost Effective Method for Raising the pH of Soil	Student(s) Lainey Czerwicz Olivia Keise Bridget Kelly	Grade 8 Grade 8 Grade 8	Town Feeding Hills Town South Windsor Town Enfield
Enfield	Chiaravalle Academy	Mr. Coleman	1002	LT	Optimum Composting For Eisenia fetida	Student(s) Sage Pierce Catherine Wilcox	Grade 8 Grade 8	Town Enfield Town Enfield
Enfield	Chiaravalle Academy	Timothy Coleman	4014	PT	Can You Separate Solids and Liquids Going Down Your Sink	Student(s) Caleb Quinby Holt Serrano	Grade 7 Grade 7	Town Windsor Town Somers
Enfield	Chiaravalle Academy	Timothy Coleman	1003	LT	Comparing Kale Growth In Hydroponics Versus Potting Soil In Winter	Student(s) Carys Wilson Delphine Lamattina	Grade 7 Grade 7	Town Somers Town West Hartford
Farmington	Miss Porter's School	Betty Wang	3078	LS	Using Single-Cell Analysis to Explore Prognostic Genes in Prostate Cancer	Student(s) Junyue Ma	Grade 11	Town Farmington

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Fishers Island Fishers Island School Carol Giles
 3083 LS The Effects Ocean Acidification has on the Antimicrobial properties of Sulfur Nanoparticles from the Marine Sponge Species Halichondria Bowerbanki.
Student(s) Madeleine Hatfield **Grade 11** **Town GROTON**

Greenwich Brunswick School Dana Montanez
 6061 PS Optimization of the Sleep Cycle by Activation of the Parasympathetic Nervous System Using Low-frequency Vibrations and Heart Rate Variability Analysis.
Student(s) Ryan Kulsakdinun **Grade 11** **Town Armonk**

Greenwich Brunswick School Dana Montanez
 6501 PST Thermal Desalination: A More Efficient and Sustainable Alternative to Reverse Osmosis
Student(s) Robert MacNaughton **Grade 10** **Town Bronxville**
Michael Yeager **Grade 10** **Town Greenwich**

Greenwich Brunswick School Dana Montanez
 3510 LST A comparative analysis of the presence of microplastics in soil and rainwater between rural areas, urban areas, and areas adjacent to trash burning facilities
Student(s) Jackson Wolfram **Grade 11** **Town Riverside**
Tomas Delgado **Grade 11** **Town Riverside**

Greenwich Greenwich Catholic School Mrs. Carol Lutz
 1007 LT Ready, Set, Grow
Student(s) Nicholas Barone **Grade 7** **Town Stamford**
Luke Mannello **Grade 7** **Town Stamford**

Greenwich Greenwich Catholic School Mrs. Carol Lutz
 5010 P7 House Elevation
Student(s) Ornella Saviano **Grade 7** **Town Stamford**

Greenwich Greenwich Country Day School Nathan Haag
 3017 LS Could Hydroponics be the Solution to a Sustainable Food System?
Student(s) Isabella Brahmst **Grade 12** **Town South Salem**

Greenwich Greenwich Country Day School Nathan Haag
 6070 PS Prototype of a Cleaning Robot
Student(s) Ellie Hochberg **Grade 11** **Town Rye**

Greenwich Greenwich High School Andrew Bramante
 6027 PS Simple Remediation of Heavy Metal and Fertilizer Runoff Water Contaminants via Carbon Nanotube Infused Pinus strobus Xylem Filtration
Student(s) Justin Bernstein **Grade 9** **Town Greenwich**

Greenwich Greenwich High School Andrew Bramante
 3025 LS Rapid, Visual Detection of Benadryl Cocktails via Competitive, Amine-Responsive Fluorophores
Student(s) Angelina Fogarty **Grade 11** **Town old greenwich**

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Greenwich	Greenwich High School	Andrew Bramante	3012	LS	Synthesis of Polysaccharide-Encapsulated Hydroxyapatite Nanocomposites to Stimulate Plant Growth and Promote Phosphorus Absorption.	Student(s) Isabella Gega	Grade 11	Town Greenwich CT
Greenwich	Greenwich High School	Andrew Bramante	3030	LS	Design of a Novel, Dual-Functioning Tissue Plasminogen Activator and Anticoagulant Therapeutic for Rapid Ischemic Stroke Treatment	Student(s) Ambika Grover	Grade 11	Town Riverside
Greenwich	Greenwich High School	Andrew Bramante	3059	LS	The Influence of Social Capital on Covid-19 Vaccine Hesitancy	Student(s) Zara Haque	Grade 9	Town Riverside
Greenwich	Greenwich High School	Andrew Bramante	6080	PS	Remediation of Fire-Foam PFAs from Contaminated Water Using an Eco-Friendly and Reusable Water Filtration System	Student(s) Adam Kleshchelski	Grade 11	Town Cos Cob
Greenwich	Greenwich High School	Andrew Bramante	6039	PS	Eco-Friendly Remediation of Polycyclic Aromatic Hydrocarbons in Stormwater via Magnesium-Infused Calcite Crystal, Supramolecular Hydrogel Scaffolding	Student(s) Audrey Lin	Grade 10	Town Riverside
Greenwich	Greenwich High School	Andrew Bramante	6060	PS	Increasing Elasticity, Durability, and Function of Wearable PANI-Sense pH Health Monitors via a Superhydrophobic, Textile Framework	Student(s) Madeline Minichetti	Grade 11	Town Greenwich
Greenwich	Greenwich High School	Andrew Bramante	6082	PS	Biomimetic Removal of Microspheres Water Contaminants, via Calcite-Infused, Coral-like Melamine Sponges	Student(s) Naomi Park	Grade 10	Town Riverside
Greenwich	Greenwich High School	Andrew Bramante	3063	LS	Design of a Wearable, Skin-Specific UVB Sensor for Instantaneous Detection of Skin-Damaging Radiation	Student(s) Yurika Sakai	Grade 11	Town Greenwich
Greenwich	Greenwich High School	Andrew Bramante	6042	PS	Controlled Delivery of Sulfoxaflo Pesticide via Cinnamaldehyde-infused Hydrogels to Reduce Toxicity to Honey and Wild Bee Pollinators	Student(s) Elizabeth Wallace	Grade 11	Town Old Greenwich
Greenwich	Sacred Heart Greenwich	Joan Fei	6091	PS	Designing and Testing an Activated Carbon Cloth Storm Drain Filter to Reduce the Prevalence of Phosphates and Nitrates in the Long Island Sound	Student(s) Abby Barnett	Grade 12	Town Darien
Greenwich	Sacred Heart Greenwich	Joan Fei	3004	LS	Using NYC Parks Department "Report a Sighting" Data to Investigate the Relationship Between Emotional Response to Wildlife and Borough and Environmental Racism in New York City	Student(s) Annie O'Connor	Grade 12	Town Rye

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Guilford	Guilford High School	Dr. James Carlson	6065	PS	A New Hybrid: Harnessing the Power of Friction	Student(s) Michael Neiss	Grade 11	Town Guilford
Hamden	Hamden Hall Country Day School	Frank Gasparro	5507	P8	2009 MacBook Restoration	Student(s) Andrei Balas	Grade 8	Town Cheshire
Hamden	Hamden Hall Country Day School	Doctor Frank Gasparro	5515	P8	iAAA band (Impact-absorbing and alerting band)	Student(s) Ravindu Karunaratne	Grade 8	Town Hamden
Hamden	Hamden Hall Country Day School	Brian Christman	2517	L8	The Latch	Student(s) Neev Makin	Grade 8	Town Hamden
Hamden	Hamden Hall Country Day School	Paulomi Aldo	2509	L8	Copper Contamination of Freshwater sources which pollute and harm the ecosystem and its consumers (Phytoremediation)	Student(s) Sophia Vash	Grade 8	Town Fairfield CT
Hamden	Sacred Heart Academy	Pamela Brownell	6507	PST	Grass vs. Turf Fields: The Effects of Heat	Student(s) Addison Galaski Rebecca Zelaya	Grade 10 Grade 10	Town North Haven Town Wallingford
Hartford	Renzulli Academy	Foifon Teawdatwan	5006	P7	It's not a pro, It's a robot?	Student(s) Gavin Dusel	Grade 7	Town Newington
Hartford	Renzulli Academy	Foifon Teawdatwan	2008	L7	Extracting DNA from strawberries	Student(s) Damaris Reynoso	Grade 7	Town Hartford
Kent	Kent School	Jesse Klingebiel	6003	PS	Flexibility with Flying: Replicable and Attachable Aerial Robot with Multi-Degree-of-Freedom	Student(s) Siyi Lu	Grade 11	Town Kent
Manchester	Manchester High School	Wendy Turek-Hernandez	6088	PS	The Effects of Environmental Buffers on Traffic-Related Noise Pollution	Student(s) Emma Greenfield	Grade 12	Town Manchester
Manchester	Manchester High School	Wendy Turek	3066	LS	The Effect of PLA and HDPE Microplastics on the Growth of Cherry Tomato Plants	Student(s) Jack Larson	Grade 12	Town Manchester
Manchester	St. James School	Ellen Oei	5005	P7	Power to the Puck	Student(s) Jameson Fisher	Grade 7	Town EAST HARTFORD

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Middlebury Westover School Sydney Kadiyala

6032 PS Flexible mechanical worm based on steering gear

Student(s) Xinyi Xie

Grade 11 **Town** Middlebury

Milford Platt Technical High School Sara Bruno

3519 LST The Palingenesis Project

Student(s) Ashley Ramos

Grade 11 **Town** Bridgeport

Bruno Valdivia

Grade 11 **Town** West Haven

Katelyn Zayas

Grade 11 **Town** New Haven

New Haven Engineering and Science University Magnet School Roger Rushworth

5001 P7 What do different baking ingredients do?

Student(s) Titiladeoluwa Adeniran

Grade 7 **Town** Seymour

New Haven Engineering and Science University Magnet School Roger Rushworth

2006 L7 Catalace

Student(s) Ethan Joseph

Grade 7 **Town** West Haven

New Haven Engineering and Science University Magnet School Roger Rushworth

3009 LS Implementing Nontoxic Modified Magnetic Metal Oxide Nanoparticle Enhanced Biochar Filtration for the Efficient Removal of Emerging Contaminants in an Aqueous Solution

Student(s) Snigtha Mohanraj

Grade 9 **Town** Ansonia

New Haven Engineering and Science University Magnet School Roger Rushworth

2001 L7 The Effects of Run-off Pollutants on the Harmful Algal Bloom (HAB) model C. Vulgaris

Student(s) Adithi Variar

Grade 7 **Town** Wallingford

New Haven Hopkins School Dr. Phillip Stewart

6054 PS Real-Time Motion Tracking System and Data Analytics for Live Insects Using Three-Wheeled Servosphere Robot

Student(s) Nicholas Lee

Grade 11 **Town** Trumbull

New Haven Sound School Chuck Mulligan

6068 PS Correlation between Rainfall and Suspended Sediment Levels in the Mill River System/ New Haven Waterways

Student(s) Cora FitzGerald

Grade 9 **Town** Branford

Norwich Norwich Technical High School Tiffani Kaminski

3515 LST Biodegradation of Polystyrene by Bacteria Found in The Gut of Tenebrio Molitor Larvae

Student(s) Tori Simmons

Grade 11 **Town** Norwich

Sara Smith

Grade 11 **Town** New London

Pawcatuck St. Michael School Anna-Helene Grossomanides

2012 L7 American Juvenile Horseshoe Crab Aquaculture

Student(s) Gianna Giovanelli

Grade 7 **Town** Westerly

Pomfret Pomfret School Deary Timothy

6073 PS A novel vascular 3D-printing approach assisted by cardiac single cell transcriptomics

Student(s) Zhoutong Qi

Grade 10 **Town** Montgomery

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Ridgefield Ridgefield High School Aine Kapell

3106 LS Assessing the efficacy of botanical repellents against blacklegged ticks

Student(s) Ava Anderson

Grade 11 Town Ridgefield

Ridgefield Ridgefield High School Patrick Hughes

6056 PS A Wavelet-based Method for Generalizing Molecular Latent Spaces for Assisted Traversal

Student(s) Ian Murdock

Grade 12 Town Ridgefield

Sandy Hook Newtown High School Tim DeJulio

6077 PS Modular Robotic System for Multipurpose Robots

Student(s) Benjamin Ochs

Grade 12 Town Sandy Hook

Sandy Hook Newtown High School Timothy DeJulio

6086 PS Accessible program and system to accurately align a star tracking mount using a camera.

Student(s) Sam Stauby

Grade 12 Town Newtown

Shelton Shelton Intermediate School Erica Napoli

1011 LT Moon Madness?

Student(s) Kurtlene Dela Rosa

Grade 7 Town Shelton

Enja Abo-Alaial

Grade 7 Town shelton

Stamford Bi-Cultural Hebrew Academy Mr. Graseck

2014 L7 How Do Small Amounts of Sodium Chloride Affect the Growth of Brassica Rapa (Mustard Plants)

Student(s) Joshua Schwartz

Grade 7 Town Stamford

Stamford King School Victoria Schulman

3032 LS A Convolutional Neural Network for Real-Time Tick Classification and Disease Risk Analysis

Student(s) Antonia Kolb

Grade 10 Town New Canaan

Stamford King School Victoria Schulman

6028 PS Electrochromism paired with Finite Difference Time Domain Modeling allows for the Successful Prediction of Color Change Achieved by Electrochromic Reactions

Student(s) Gouri Krishnan

Grade 11 Town Darien

Stamford King School Victoria Schulman

6026 PS Passive Thermal Energy Storage for Air Conditioning Systems Utilizing Phase Change Material

Student(s) Adam Nomani

Grade 12 Town Stamford

Stamford King School Victoria Schulman

3038 LS The use of Prime Editing to Induce and Correct the CFTR-F508del mutation in iPSCs.

Student(s) Benjamin Persily

Grade 11 Town Scarsdale

Storrs E.O. Smith High School Cheryl Granger

3521 LST How Cooking Different Kinds of Poultry at Different Temperatures Affects the Growth of E. Coli

Student(s) Mary Lynch

Grade 9 Town Storrs

Mackenzie Dahlen

Grade 9 Town Mansfield Center

Suffield Suffield Academy Suika Liu

6014 PS On the Casas-Alvero's Conjecture

Student(s) Jiaxuan Su

Grade 10 Town Shanghai

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Suffield Suffield High School Melanie Brown

3036 LS The Anticoagulant blood mixer and anti-stress device for patients donating blood

Student(s) Ana-Lois Davis **Grade** 10 **Town** Broad Brook

Suffield Suffield High School Melanie Brown

6074 PS Post FDM 3D Printing Processes to Improve Layer Adhesion.

Student(s) Jack Shanks **Grade** 12 **Town** Suffield

Suffield Suffield Middle School Melanie Brown

5511 P8 Converting Excess Heat Generated From Furnaces Into Usable Energy

Student(s) Noora Khaled **Grade** 8 **Town** Suffield

Trumbull Christian Heritage School Daniel Cote

6037 PS Combating Covid-19 through Programming using Scratch Software

Student(s) Aidan Bradley **Grade** 11 **Town** Ansonia

Trumbull Christian Heritage School Mr Daniel Cote

5508 P8 The Luboni

Student(s) Lucille Presbrey **Grade** 8 **Town** Ridgefield

Wallingford Choate Rosemary Hall Murali Chiravuri

3117 LS Development of a Home N-Terminal Pro-Brain Natriuretic Peptide Assay for the Diagnosis of Congestive Heart Failure.

Student(s) Maya Chiravuri **Grade** 11 **Town** Bridgeport

Wallingford Choate Rosemary Hall Sunny Kim

3119 LS Development of LMMD (Lower Methane, More Degradable) Bag Using Marine Bio-Waste Sargassum

Student(s) Ryan Yoon Ha Lee **Grade** 10 **Town** Wallingford

Wallingford Choate Rosemary Hall Jan Cook

6011 PS Application of Soft Robots in Building Collapse Rescues

Student(s) Ann Song **Grade** 9 **Town** Farmington

Westport Staples High School Nick Morgan

6016 PS Finding Gravitationally Lensed Quasar Systems by using a Polar Shapelet Decomposition Approach

Student(s) Ishan Prasad **Grade** 12 **Town** Westport

Wilton Middlebrook School Kendra Norman

4003 PT School Bus Approach Alert System

Student(s) Leonardo Kulon **Grade** 7 **Town** Wilton
Sanaka Dash **Grade** 7 **Town** Wilton

Wilton Middlebrook School Carol Festa

5503 P8 Revolutionary 3D-Printed Shoes to Change the Way We Think about Footwear

Student(s) William Olmstead **Grade** 8 **Town** Wilton

Wilton Middlebrook School Carol Festa

1012 LT A novel way to solve coral bleaching

Student(s) Preethi Vijay **Grade** 8 **Town** Wilton
Trisha Prabhu **Grade** 8 **Town** Wilton

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Windsor Academy of Aerospace & Engineering Dr. Michelle Bellinger

6502 PST The Effect Of Altering The Material Composition in Ultra High-Performance Concrete (UHPC) With Regional Materials On Compressive Strength

Student(s) Justin Ho **Grade** 11 **Town** Suffield

Nathan Magold **Grade** 11 **Town** Southington

Windsor Academy of Aerospace & Engineering Dr. Michelle Bellinger

6505 PST Piezoelectric Wind Harvesting Electrical Energy Conversion

Student(s) Dylan Pueschel **Grade** 12 **Town** Hebron

John Watrous **Grade** 12 **Town** Hartford

Windsor Madina Academy Mr. Coleman

6059 PS A Proposal to Use Cost Effective Eco-friendly and Stronger Bricks for Modern Construction:

Student(s) Yameen Ahmed **Grade** 9 **Town** Vernon, Rockville

Windsor The Loomis Chaffee School Koby Osei-Mensah

6089 PS Analysis of Leading-Edge Devices on Aerodynamic Lift at Different Angles of Attack

Student(s) Ting-Yo Tan **Grade** 12 **Town** Taipei

Windsor The Loomis Chaffee School Koby Osei-Mensah

6079 PS Introduction to Surreal Numbers: Exploring Real, Infinite and Infinitesimal Values and Their Hackenbush Games

Student(s) Yat Him Cyrus Wong **Grade** 12 **Town** Hong Kong

Woodbridge Amity Regional High School Catherine Piscitelli

6090 PS The Optimization of a Ground Collision Avoidance System and Application to Inhibit Controlled Flight Into Terrain Accidents For Single Engine Aircraft

Student(s) Mason Beaudette **Grade** 12 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6031 PS Theoretical Modelling and Parameterization of a Novel-Actuator-Based Transtibial Pediatric Prosthetic

Student(s) Aditi Bhattamishra **Grade** 10 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

3021 LS Creating a Frequency-Emitting Program to Enhance Mosquito Capture and Surveillance Efforts in Response to the Spread of Mosquito-Borne Diseases

Student(s) Daniel Liu **Grade** 11 **Town** Woodbridge

Woodbridge Amity Regional High School Catherine Piscitelli

6058 PS The Manufacture and Expanded Function of a Locking Container to Eliminate the Distraction of Phones While Driving

Student(s) Scott Lowder **Grade** 12 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6015 PS Creating a Systematic ESG (Environmental Social Governance) Scoring System using Social Network Analysis and Machine Learning to Influence Company Practices to be More Sustainable

Student(s) Aarav Patel **Grade** 10 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6044 PS Designing and Optimizing a More Efficient Optical Component for Thermal Cameras

Student(s) Anthony Sharonov **Grade** 11 **Town** Bethany

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Woodbridge Amity Regional High School Catherine Piscitelli

6041 PS Modeling Investigation on Amines and Sea-salt Aerosol Interactions to Assess Their Potential Climate Impacts

Student(s) Pranav Sundararajan

Grade 12 Town Orange

Woodbridge Amity Regional High School Catherine Piscitelli

3073 LS Analyzing the Mechanisms of Bacteriophage P22 Genome Ejection

Student(s) Aiden Tischer

Grade 12 Town Bethany

Woodbridge Amity Regional High School Catherine Piscitelli

6081 PS Developing a Machine Learning Algorithm to Accurately Predict Geomagnetic Storms

Student(s) Iris Yan

Grade 10 Town Woodbridge
