



Connecticut Science & Engineering Fair

Quinnipiac University

March 6 - 18, 2023

Special Award Winners

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

All special award winners are required to attend the awards ceremony on Saturday. Be sure to acknowledge by going to the CHECK-IN page.

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

Avon	Talcott Mountain Academy	Hannah Marye	5511	P8	Mitigating the Threat of Microplastics in Drinking Water: The Potential of Coconut Fiber and Activated Coconut Charcoal as Sustainable Filtration Materials	Student(s) Rhea Doshi	Grade 8	Town Farmington
Bethel	Bethel Middle School	Jason Maxwell	2533	L8	D.E.R.M.A. (Dermatologic Equipment for Rapid Medical Analysis)	Student(s) Toshan Bhattacharya	Grade 8	Town Bethel
Bozrah	Fields Memorial School	Joshua Fish	5505	P8	Porosity, Permeability Rates, and Water Movement Through Various Commercial Crushed Rock Sizes as it Relates to Drainage Rock in the Excavation Trade	Student(s) Leah Kozerefski	Grade 8	Town Gilman
Bozrah	Fields Memorial School	Joshua Fish	5512	P8	Does Air Pressure Affect How Far A Soccer Ball Travels In The Air When Kicked?	Student(s) Tyler Savoie	Grade 8	Town Gilman
Bridgeport	Black Rock School	Tejas Godbole	4003	PT	Solar Powered Charger	Student(s) Nilah DeJesus Karina Conde	Grade 8 Grade 8	Town Bridgeport Town Bridgeport
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	3124	LS	Utilizing the Nematocysts of Cassiopea xamachana as a Bioactive Antiproliferative Compound	Student(s) Grace Kistner	Grade 12	Town Fairfield
Bridgeport	Bridgeport Aquaculture Center	Kirk Shadle	6009	PS	Spiral Redirect of Heat Exchange Flow Through a Unique Centrifugal Baffle Coupling	Student(s) Erika Pinto	Grade 12	Town Bridgeport
Brookfield	Brookfield High School	Jonathan Neuhausel	6513	PST	ParkBD: A Novel Multi-Modal Deep Learning Framework for Biomarker Identification and Drug Repurposing in Parkinson's Disease	Student(s) Shriya Jonnalagadda Diya Girish Kumar	Grade 11 Grade 11	Town Brookfield Town Brookfield
Cheshire	Cheshire High School	Ms.Julie Barker	6001	PS	A Domestic Violence Alerting Device comprised of an Analog Sound Level Meter, OLED Display, GPS Sensor and iOS and Android Mobile App built using Flutter	Student(s) Suchita Srinivasan	Grade 9	Town Cheshire
Cheshire	St. Bridget School	Michelle Carroll	5506	P8	Improving a Homemade Livestock Identification System for all Farmers	Student(s) Avery Fowler	Grade 8	Town Cheshire

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Cheshire St. Bridget School Michelle Carroll

5010 P7 Disaster Resilient Architecture:
Experiments of Tower Design and Construction

Student(s) Luke Machado **Grade 7** **Town** Hamden

Danbury Saint Gregory the Great School Mrs. Fahey

2017 L7 Soil Stability-

Student(s) Claire Calomeni **Grade 7** **Town** danbury

Danbury Saint Gregory the Great School Mrs. Fahey

2005 L7 How can water be filtered in an inexpensive way?

Student(s) Riley Lamp **Grade 7** **Town** New Fairfield

Danbury Westside Middle School Academy Nancy Barlow

1019 LT The Benefit of the BioBroth Bubbler on Formaldehyde-Infected Air

Student(s) Briti Kaur **Grade 8** **Town** Danbury

Nashla Giron **Grade 8** **Town** Danbury

Danbury Westside Middle School Academy Ms.Barlow

4013 PT A project to benefit all of the community, with dual-language stock market course and ML stock price predictor, focusing on the Latino and Hispanic community.

Student(s) Alejandro Mayorga **Grade 8** **Town** Danbury

Matthew Guzman **Grade 8** **Town** Danbury CT 06810

Danbury Westside Middle School Academy Ms. Barlow

2518 L8 The Effect of Plant-Based Natural Pesticides on Tenebrio Molitors.

Student(s) Christopher Mladen **Grade 8** **Town** Danbury

Danbury Westside Middle School Academy Nancy Barlow

4010 PT The Benefit of an Automatic Electricity Blocking Device on Preventing Waste of Electricity

Student(s) Lea Sanchez-Dubois **Grade 8** **Town** Danbury

Shatarupa Mandal **Grade 8** **Town** Danbury

Shezan Alladin **Grade 8** **Town** Danbury

Danbury Westside Middle School Academy Ms. Barlow

1002 LT Promoting Outdoors Safety By Altering Pregnancy Tests to Detect Urushiol

Student(s) Alice Tran **Grade 8** **Town** Danbury

Vianca Villacres **Grade 8** **Town** Danbury

Thomas Lazo **Grade 8** **Town** Danbury

Darien Darien High School David Lewis

3127 LS Analysis of Comprehension Scores of Middle School Students Using Different Forms of Reading (Assisted Reading and Digital Texts)

Student(s) Lindsey Darby **Grade 12** **Town** Darien

Darien Darien High School Sarthak Kanodia

3055 LS Prediction of Vegetation Dynamics in Wetlands using NDVI and Climate Time-series data with an LSTM Model

Student(s) Anusha Narang **Grade 12** **Town** Darien

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Ellington Ellington Middle School Krista Brogle

5504 P8 Developing and Quantifying the Strength and Reliability of Soft Robotics Tubing Attachment Methods

Student(s) Thomas Gerlach **Grade 8** **Town** Ellington

Enfield Chiaravalle Academy Timothy Coleman

2007 L7 Determining the optimal mixture of chicken compost, or sand to grow beans.

Student(s) Misha LaCroix **Grade 7** **Town** Enfield

Jayden Eldridge **Grade 7** **Town** Somers

Enfield Chiaravalle Academy Timothy Coleman

1011 LT How Lawn Chemicals Affect Soil Biodiversity

Student(s) Delphine Lamattina **Grade 8** **Town** West Hartford

Carys Wilson **Grade 8** **Town** Somers

Sabrina Plaz **Grade 8** **Town** Suffield

Enfield Chiaravalle Academy Tim Coleman

1016 LT Recycling Greywater for Plant Growth

Student(s) Delainey Pappas **Grade 8** **Town** Enfield

Hadley Buttrey **Grade 8** **Town** Windsor Locks

Caleb Quinby **Grade 8** **Town** Windsor

Enfield Chiaravalle Academy Timothy

4009 PT What water filtration method can be quickly produced, requires little process, and can provide clean water for less developed countries?

Student(s) Holt Serrano **Grade 8** **Town** Somers

John Donnelly **Grade 8** **Town** Suffield

Fishers Island Fishers Island School Michelle Zimmerlin

3018 LS Mytilus edulis ability to control harmful algae blooms from nitrogen rich fertilizer and phosphorus rich fertilizer.

Student(s) Madeleine Hatfield **Grade 12** **Town** Mystic

Glastonbury Glastonbury High School Diane Pintavalle

3090 LS THE INDIRECT EFFECTS OF PHYTOHORMONES ON THE COMPOSITION OF COMMUNITIES OF INSECTS INTERACTING WITH Quercus alba (WHITE OAK) IN THE FORESTS OF CONNECTICUT

Student(s) Kiernan Tierney **Grade 11** **Town** Glastonbury

Greenwich Brunswick School Dana Montanez

6506 PST Comparative analysis of the most efficient, accessible, and useful gasifiable biomatter

Student(s) Thomas Armstrong **Grade 10** **Town** Greenwich

Eric Lorenz **Grade 10** **Town** Greenwich

Greenwich Brunswick School Dana Montanez

3513 LST Determining the relationship between sound frequencies and settlement rates in pediveliger oyster larvae to develop oyster-recruitment methods for the restoration of oyster reefs

Student(s) Sebastian DeAngelis **Grade 11** **Town** Darien

John Morningstar **Grade 11** **Town** Greenwich

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Greenwich Brunswick School Dana Montanez

3516 LST The effects of cable bacteria on reducing methane production in microbial methanogen populations

Student(s) Jack Degl

Grade 10 **Town** Mahopac

Henry Johnson

Grade 10 **Town** Greenwich

Greenwich Brunswick School Mrs. Montanez

6011 PS Development of Eco-Navigation System for Reducing Greenhouse Gas Emissions of Ships using Wind-Assisted Flettner Rotors

Student(s) Thomas Ewald

Grade 11 **Town** Greenwich

Greenwich Brunswick School Dana Montañez

3519 LST The effects of Light Pollution on the growth and health of stone corals Montipora Capricornia and Oxypora Coral.

Student(s) Grayson O'Hara

Grade 10 **Town** Rye

Tucker Spiess

Grade 10 **Town** Old Greenwich

Greenwich Brunswick School Dana Montanez

3526 LST The Nostoc Effect: Creating the Ultimate Biofertilizer to Mitigate Climate Change

Student(s) Gabriel Trahanas

Grade 10 **Town** Riverside

Ryan Ahn

Grade 10 **Town** White Plains

Greenwich Brunswick School Dana Montanez

3061 LS The Effectiveness of Ultraviolet Light Sterilization on Disinfecting Hydroponic Systems

Student(s) Oliver Velasco

Grade 10 **Town** Greenwich

Greenwich Central Middle School Andrew Bramante

2521 L8 Reducing Food Waste with Early, Visual Detection of Bread-Mold via BODIPY-Colorimetric Card Detection of 1-Octen-3-ol

Student(s) Amelia Foell

Grade 8 **Town** Greenwich

Greenwich Central Middle School Andrew Bramante

5507 P8 Demonstrating the Persistence of Long Island Sound Polyaromatic Hydrocarbon (PAH) Contamination

Student(s) Bridget Hadden

Grade 8 **Town** Greenwich

Greenwich Central Middle School Andrew J Bramante

2508 L8 Wavelength-Specific Illumination of Hydroponic Growth Systems, for Increased Crop Production

Student(s) Kate Wick

Grade 8 **Town** Greenwich, CT

Greenwich Eastern Middle School Andrew Bramante

2503 L8 Enhancement of Sleep Cycle Circadian Rhythms via the Introduction of Ambient Sounds

Student(s) Rachel Goldenberg

Grade 8 **Town** Greenwich

Greenwich Eastern Middle School Andrew Bramante

5510 P8 Does Our Desire for Convenient Spring Water Come at an Expense for Meaningful Microplastic Harm?

Student(s) Sara Rahimtula

Grade 8 **Town** Old Greenwich

Greenwich Greenwich Country Day School Nathan Haag

3122 LS Does diet soda help with weight loss in young teenagers

Student(s) Lucas Murray

Grade 12 **Town** Greenwich

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Greenwich Greenwich High School Andrew Bramante
3099 LS Eco-Friendly Removal of Eutrophication-Initiating NH₄⁺ from Water via SAP-Enhanced, Activated Food Waste Biochar Adsorption Films

Student(s) Audrey Lin **Grade** 11 **Town** Riverside

Greenwich Greenwich High School Andrew Bramante
6043 PS Reversible, Tunable Metal Electrodeposition on Pt-Functionalized, Indium Tin Oxide, Transparent Electrodes for Thermal Regulating and Dynamic Optical Properties of Smart Windows

Student(s) Madeline Minichetti **Grade** 12 **Town** Greenwich

Greenwich Greenwich High School Mr. Andrew Bramante
6008 PS Concurrent Removal of Rising Soluble Ocean Carbon Dioxide and Oil-in-Water Contaminants via Multi-Functional Remediation Framework.

Student(s) Naomi Park **Grade** 11 **Town** Riverside

Greenwich Greenwich High School Andrew Bramante
6022 PS Use of Cryptomelane-Type Manganese Oxide Free Standing Membranes for Removal of Oil Contaminants in Water.

Student(s) Ryan Wadhwa **Grade** 9 **Town** Greenwich

Greenwich Greenwich High School Andrew Bramante
3020 LS A Zero-Waste Product; Pyrolytic Conversion of Walnut Shell Waste to Light-Hydrocarbon Fuels, Biopesticides, and Valuable Soil Additives

Student(s) Keira Young **Grade** 12 **Town** Cos Cob

Greenwich Sacred Heart Greenwich Mary Musolino
3507 LST Testing Mars Global Stimulant MGS-1 Enhancements including a Novel Water/Nutrient Delivery System for Growing Crops for a Mission to Mars

Student(s) Charlotte Gannon **Grade** 12 **Town** Greenwich
Isabella Leao **Grade** 12 **Town** Greenwich
Robin Murphy **Grade** 12 **Town** Cos Cob

Greenwich Western Middle School Andrew Bramante
2514 L8 Use of Simple, Home-Remedy Cleansers to Selectively Inhibit Harmful Bacteria on Classroom Surfaces

Student(s) Amaya Khwaja-Patel **Grade** 8 **Town** Greenwich

Guilford Guilford High School Kristie Whitcomb
6037 PS Removing the Ocean's Noose: Designing a Ropeless Solution to the Lobster Trap

Student(s) Michael Neiss **Grade** 12 **Town** Guilford

Guilford Guilford High School Kristie Whitcomb
3066 LS Sounds of Change: Music Therapy's Effect on Apathy in Parkinson's Disease Patients

Student(s) Zachary Neiss **Grade** 12 **Town** Guilford

Hartford A.I. Prince Technical High School Sarah Wilby
6511 PST Bibby Socks - heating your feet with the power of your steps

Student(s) Essence Telford **Grade** 11 **Town** New London
Brandon Sanchez **Grade** 11 **Town** Hartford
Camille Edmondson **Grade** 11 **Town** Hartford

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Hartford Environmental Sciences Magnet School Rebecca Hays
2506 L8 How does the application of granular sodium chloride and liquid magnesium chloride before and during winter weather events affect the quality of nearby bodies of water?

Student(s) Elizabeth D'Agostino **Grade 8** **Town** New Britain

Kent Kent School Jesse Klingebiel
3045 LS Cell type-specific expression of the molecular players in mouse prefrontal cortex during cocaine addiction

Student(s) Eric Teng **Grade 11** **Town** San Marino

Litchfield Wamogo Regional High School Fred Jaquin
6041 PS Measuring Our Place in the Solar System:

Student(s) Ryan Emanuel **Grade 10** **Town** Morris

Manchester Manchester High School Jeffrey Labasi
3019 LS The Isolation And Identification Of Polystyrene Degrading Bacteria From Zophobas Morio

Student(s) Paris Bazemore **Grade 12** **Town** manchester

Manchester St. James School Ellen Oei
5005 P7 Which Rock is more Porous?

Student(s) Nick Grace **Grade 7** **Town** Manchester

Milford Platt Technical High School Sara Bruno
3508 LST Urban Hub Revitalization Project

Student(s) Ashley Ramos **Grade 12** **Town** Bridgeport
Bruno Valdivia **Grade 12** **Town** West Haven
Katelyn Zayas **Grade 12** **Town** New Haven

New Haven Engineering and Science University Magnet School Roger Rushworth
3073 LS Assessing the Effectiveness of Different Flocculants on Algal and Agricultural Contamination in an Acidifying Ocean

Student(s) Saket Aliminate **Grade 9** **Town** Milford

New Haven Engineering and Science University Magnet School Roger Rushworth
6079 PS An Analysis of the Efficient Blockage of RFID Readers Based on the Thickness, Distance, and Density of Each RFID Reader Obstruction Material

Student(s) Nivrith Ananth Iyer **Grade 9** **Town** West Haven

New Haven Engineering and Science University Magnet School Roger Rushworth
2534 L8 Design and Implementation of a Novel Machine-Learning-Based System Utilizing Feature Extraction for Precise Cervical Cancer Detection via Biopsy Sample

Student(s) Ethan Joseph **Grade 8** **Town** West Haven

New Haven Engineering and Science University Magnet School Ms. Alyssa Anderson
3016 LS Investigating the Usage of Treated Nano-Clay Composites for the Efficient Removal of Emerging Contaminants in an Aqueous Solution

Student(s) Snigtha Mohanraj **Grade 10** **Town** Ansonia

New Haven Engineering and Science University Magnet School Roger Rushworth
2502 L8 The Effect of Ocean Acidification on Coral Reef Growth

Student(s) Adithi Variar **Grade 8** **Town** Wallingford

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New Haven Sound School Charles Mulligan

3520 LST Potential role of proximity to creek source water on population dynamics of Eastern Oyster (*Crassostrea Virginica*)

Student(s) Emma Bigman

Grade 10 **Town** Middlebury

Sofia Roberts

Grade 10 **Town** Branford

Newtown Newtown High School Timothy DeJulio

6010 PS Line Follower Car

Student(s) Emily Li

Grade 10 **Town** Newtown

Pawcatuck St. Michael School Anna Helene Grossomanides

2023 L7 Impact of Contaminants of Emerging Concern on Bean Seed Germination and Growth

Student(s) Addison Cadmus

Grade 7 **Town** Pawcatuck

Pomfret Pomfret School Joshua Lake

6015 PS Research on sound generation through mechanical design for pedestrian safety during low-speed driving

Student(s) Yuna Cho

Grade 10 **Town** Pomfret

Pomfret Pomfret School Joshua Lake

3049 LS Detection and Remediation of War Polluted Soil Using Deep Learning Robot and Soil Remediating Bioplastic (BioCore)

Student(s) Yuree Oh

Grade 11 **Town** Seoul

Redding CT STEM Fair Catherine Piscitelli

3110 LS Determining the Effects of Prolonged Starvation on the Survival, Growth, and Development of *Lymantria dispar*

Student(s) Sabrina Osowiecki

Grade 10 **Town** Redding

Ridgefield Ridgefield High School Patrick Hughes

3036 LS Assessing the Impact of Synthetic Sweeteners on Hunger Perception in *Drosophila Melanogaster*

Student(s) Aditi Gupta

Grade 12 **Town** Ridgefield

Ridgefield Ridgefield High School Patrick Hughes

3076 LS Assessing grid and curvilinear neighborhood layouts for their impact on wildfire damage

Student(s) Charlotte Kemp

Grade 12 **Town** RIDGEFIELD

Ridgefield Ridgefield High School Patrick Hughes

6083 PS Engineering a Methodology and Database to Efficiently and Effectively Discover and Classify Micrometeorites

Student(s) Heather Wallace

Grade 12 **Town** Ridgefield

Shelton Shelton Intermediate School Erica Napoli

2008 L7 Color VS Memory

Student(s) Ava Hamlin

Grade 7 **Town** Shelton

South Windsor South Windsor High School Patti Stamper

6519 PST Using organic dyes for a more economical approach to a Dye Sensitized Solar Cell

Student(s) Pranay Kakkar

Grade 10 **Town** South Windsor

Adithya Anand

Grade 10 **Town** South Windsor

Southington Southington High School Mr. Destefano

3112 LS Can galleria mellonella larvae be utilized to decompose plastics faster?

Student(s) Zeynep Agirman

Grade 11 **Town** Southington

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Stamford King School Victoria Schulman
6036 PS Environmental Remediation via Photocatalysis for Partial Methane Oxidation and Oil Photodegradation
Student(s) Antonia Kolb **Grade 11** **Town** New Canaan

Stamford King School Victoria Schulman
3048 LS Knockdown of the essential 23S rRNA methyltransferase, rv3579c, increases the susceptibility of Mycobacterium tuberculosis to macrolides
Student(s) Yuriy Sandmeier **Grade 12** **Town** New Rochelle

Stamford King School Victoria Schulman
6087 PS Designing a Simulation for Aerothermodynamic Performance of Transatmospheric Vehicles and Ablative Heat Shield Designs for Space Exploration and Missile Defense Reentry
Student(s) Ryan Wempen **Grade 11** **Town** Stamford

Storrs E. O. Smith High School Cheryl Granger
6040 PS Multi Temporal Analysis of Beaver Activity in Connecticut Forests Using Aerial Imagery
Student(s) Hiruni Witharana **Grade 9** **Town** Storrs Mansfield

Stratford St. Mark School Alexander Kennedy
2006 L7 The Stroop Effect
Student(s) Julianne Gonzalez **Grade 7** **Town** Stratford

Suffield Suffield High School Melanie Brown
3098 LS The Impacts of the Permanent Implementation of Daylight Savings Time in Connecticut.
Student(s) Emma Conway **Grade 11** **Town** Suffield

Suffield Suffield Middle School Melanie Brown
4012 PT Technical and Economic Feasibility of Photovoltaic Window Shades
Student(s) Shaunak Ukidwe **Grade 8** **Town** Suffield
Arnav Ukidwe **Grade 8** **Town** Suffield

Trumbull Christian Heritage School Dr. Daniel Cote
6080 PS Designing a Device to Charge a Cellphone Using Energy Created by a Bicycle for Underdeveloped Areas
Student(s) Abigail Nagel **Grade 11** **Town** Trumbull

Trumbull Christian Heritage School Nicole Blaskewicz
5502 P8 How Ice vs. No Ice Affects a Stirling Engine
Student(s) Charles Orban **Grade 8** **Town** Norwalk

Trumbull Christian Heritage School Ms. Blaskewicz
5509 P8 Solar Storms and Magnetometers: What is a solar storm, and how do magnetometers contribute to society today?
Student(s) Grace Rowe **Grade 8** **Town** Trumbull

Trumbull Trumbull High School Steffanie Elkins
3022 LS The Effect of Different Concentrations of Caffeine on Acidophilic and Alkaliphilic Plants
Student(s) Shivashankar Subramanian **Grade 12** **Town** Trumbull

Wallingford Choate Rosemary Hall Jan Cook
6076 PS Theoretical Investigation of Sodium Ion Adsorption on N-rich Graphene as a High-Rate Anode for Sodium-Ion Batteries
Student(s) Henry Ding **Grade 11** **Town** Irvine

[SchTown] [School] [Teacher]
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Wallingford Choate Rosemary Hall Jan Cook
 3007 LS Development of Buoyant, Lignin-Based Fulvic Acid Supply Device (FASD) to Prevent Ocean Desertification
Student(s) Yoon Ha Lee **Grade 11** **Town Seoul**

Wallingford Choate Rosemary Hall Jan Cook
 3040 LS TopoCan: A Novel Histopathological System for Clinical Prediction with Topology- and Spatial Genome-Informed Deep Learning
Student(s) Isabella Wu **Grade 11** **Town Wallingford**

Wallingford Choate Rosemary Hall Jan Cook
 6064 PS A Self-Stabilizing Haptic Accessibility Mouse for Parkinson's Disease Sufferers
Student(s) Jingyuan Zhang **Grade 10** **Town Wallingford**

Wallingford Choate Rosemary Hall Christopher Hogue
 6069 PS Probing Neural Networks for Visio-Linguistic Feature Binding
Student(s) Minzhi Zhang **Grade 11** **Town Wallingford**

Waterbury ACES at Chase Anne Pember
 2013 L7 Removing Sodium Nitrate from run off water
Student(s) Joel Brooks **Grade 7** **Town Naugatuck**

Waterbury ACES at Chase Anne Pember
 5513 P8 The Design and Experimentation of Creating a Cold Pack Out of Household Items
Student(s) Brock Dauber-Katz **Grade 8** **Town Thomaston**

Westbrook Westbrook High School Mr. Zebrowski
 6047 PS Linear Particle Accelerator
Student(s) Enzo Adorno **Grade 12** **Town Westbrook**

Wilton Middlebrook School Kendra Norman
 5002 P7 BlindSight
Student(s) Arav Gupta **Grade 7** **Town Wilton**

Wilton Middlebrook School Jessica Garcia
 5517 P8 Identifying Skin Lesions with Artificial Intelligence
Student(s) Leonardo Kulon **Grade 8** **Town Wilton**

Wilton Middlebrook School Kelly DePiano
 2525 L8 Preventing Hypoxia using Magnetism
Student(s) Anshika Saagi **Grade 8** **Town Wilton**

Wilton Middlebrook School Ms. Kelly Depiano
 5516 P8 How to See Beyond What the Eye Can See (How to build a Microscope to see objects smaller than 1 micrometer in size)
Student(s) Angela Varghese **Grade 8** **Town Wilton**

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 3024 LS Non-Invasive Pre-screening Approach for Early Detection of The Human Papillomavirus (HPV) to Aid in Cervical Cancer Prevention in Underrepresented Demographics
Student(s) Ana-Lois Davis **Grade 11** **Town Broad Brook**

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Windsor Academy of Aerospace and Engineering Michelle Bellinger

6512 PST Harvesting Energy from the Wind by Combining Piezoelectrics and Turbines.

Student(s) Ronak Ramesh
Aarush Singh

Grade 11 **Town** Middletown
Grade 11 **Town** South Windsor

Windsor Madina Academy Mrs.Sana Farooqi

6063 PS Investigating the effect of dimpled and tubercled geometries in conjunction on the drag and lift of airfoils.

Student(s) Tasneem Zoghol

Grade 10 **Town** Enfield

Windsor The Loomis Chaffee School Koby Osei-Mensah

6003 PS Improving Photoelectric Conversion Efficiency of the Solar Cell with Silica-Based-Aerogel-Coated Surface

Student(s) Yan Che

Grade 11 **Town** Shanghai

Woodbridge Amity Regional High School Catherine Piscitelli

6085 PS Refining a Novel Pediatric Bionic Ankle Through Empirical Testing and Integration of an Intelligent Fluidic Joint Control Architecture

Student(s) Aditi Bhattamishra

Grade 11 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6061 PS Creating and Testing a Novel Drone Swarm Mapping and Surveillance Algorithm

Student(s) Francis Cavallaro

Grade 12 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6070 PS Development of an Autonomous Device that uses Heart Rate and Vibrational Pulses to Reduce Stress

Student(s) Sheehan Munim

Grade 12 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6017 PS Optimizing Reinforcement Learning Using Dynamic Environment Manipulation to More Efficiently Train Autonomous Navigation AI

Student(s) Aarav Patel

Grade 11 **Town** Orange

Woodbridge Amity Regional High School Catherine Piscitelli

6025 PS Modeling Subcortical-Cortical Interactions During Reward-Based Decision Making Using a Hierarchical Temporal Memory Artificial Neural Network

Student(s) Annika Yun

Grade 11 **Town** Orange