



Conn. Science & Engineering Fair

Quinnipiac University

March 4 - 16, 2024

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

Regular Fair Awards - Finalists

Sorted by:
 - School Town
 - School
 - Last Name

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

Avon Talcott Mountain Academy John Pellino

5009 The Aura Project: Landing Rockets at a Model Scale

Student(s) Kwabena Addai - Boateng **Grade 8** **Town** East Hartford

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences 7th Grade Ind. - \$100 & trophy
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * U.S. Air Force --- Certificate & USAF Merchandise Package
- * Christopher T. Borowiec Excellence in Innovation Awards --- \$100 Cash for Excellence in Planetary Science

Avon Talcott Mountain Academy Brigette Zacharczenko

2502 Reducing the Waste of Polyethylene Plastic by Galleria mellonella

Student(s) Yveson Hsiao **Grade 8** **Town** Farmington

- * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences 8th grade- \$100 & trophy
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 2nd Place MS- \$200, Trophy

Avon Talcott Mountain Academy John Pellino

2520 The Boreabrush

Student(s) Oliver Lind **Grade 8** **Town** Harwinton

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 8th grade - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Lemelson Early Inventor Award --- Certificate & \$100 cash award from Lemelson Foundation

Avon Talcott Mountain Academy Brigette Zacharczenko

2509 Will Roaches Direct Other Roaches to Food?

Student(s) Talia McKeen **Grade 8** **Town** West Granby

- * Life Science Awards with support from Boehringer Ingelheim --- 5th Place- Life Sciences 8th grade- trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

Bethel Bethel High School Raymond Turek

3116 The Effect of Disinfecting UVC Light Exposure on Bacteria Content, Transparency and Flexibility of Soft Contact Lens vs. the use of Standard Multi-Purpose Cleansing Solution.

Student(s) Zoe Demo **Grade 12** **Town** Bethel

- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Bethel Bethel High School Raymond Turek

6090 Investigating the Usage of Computer Microstructure Generation Techniques in the Synthesis of Novel Scale Independent Structures

Student(s) Christopher Zuraw **Grade 11** **Town** Bethel

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

Bozrah Fields Memorial School Josh Fish

5513 How will temperature affect the mass that a helium balloon can lift?

Student(s) Kallie Bitgood **Grade 8** **Town** Bozrah

- * M&T Bank Mathematics Awards --- 2nd Place Middle School- \$200 and Trophy
- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- Middle Schools- \$100 / trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

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

Bozrah Fields Memorial School Joshua Fish

4013 Oxidation rates of different metals in various liquids and temperatures.

Student(s) **Elise Kobelski** **Grade 7** **Town** Bozrah
Benjamin Savoie **Grade 7** **Town** Bozrah

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences MS Team- trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

3015 Non-Thermal Induction of Heat Shock Protein 90 to Mitigate Early Oncogenesis With Preserved HSR

Student(s) **Chloe Atkins** **Grade 12** **Town** Stratford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Life Sciences - Co-Op \$100 Gift Certificate

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

3027 Using an Experimental Algorithm to Detect Stress in Homarus americanus in Aquaculture

Student(s) **Eden Cunningham** **Grade 12** **Town** Southport

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- High School- \$200 / plaque

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

6080 Using Ozone-Based Oxidation for Pesticide Detoxification in Aquatic Environments

Student(s) **Aiden Deutsch** **Grade 12** **Town** Fairfield

- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

6030 Using Sodium Alginate Derived Porous Carbon Material to Increase Capacitance of a Cellulose Matrix

Student(s) **Isabella E Silva** **Grade 12** **Town** Bridgeport

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

6065 Ferric Modified Bamboo Biochar as a Passive Lead (Pb) Remediation Tool in Contaminated Coastal Wetland Sediment

Student(s) **Keller Hall** **Grade 12** **Town** Monroe

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

3077 Utilizing Fucus distichus alginates to develop an enhanced aerosol treatment for Cystic Fibrosis

Student(s) **Mia Nierenberg** **Grade 12** **Town** Stratford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion
- * J.A. Augustine and H. Glista Awards --- \$100 for excellence in Life Sciences

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

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
3102 Engineering of a Soybean oil-based natural clothing dye
Student(s) **Alana Reyes** **Grade 12** **Town** Trumbull

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
3134 Acoustic Noise Pollution Affecting Reproduction, Communication, and Behavior of Brine Shrimp
Student(s) **Anne Taylor** **Grade 12** **Town** Fairfield

- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * Bushnell Center for Performing Arts --- Pair of Tickets to Illuminate Dance - for top project involving technology and lights for Arts Applications, if possible

Bridgeport Geraldine Johnson School Kelly Mulligan
1009 Can you detect Artificial Intelligent generated Text from Human Generated Text?
Student(s) **Angelica Philogene** **Grade 8** **Town** bridgeport
Kee'maja Lilley **Grade 8** **Town** Bridgeport

- * Pfizer Computational Biology and Bioinformatics Awards --- 3rd Place Middle School - \$100, Trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- Middle School Finalist - Medallion

Bridgeport John Winthrop Srilakshmi Kongani
4003 The Pinwheel Problem
Student(s) **Fernando Marin** **Grade 8** **Town** Bridgeport, CT
Pandora Nguyen **Grade 8** **Town** Bridgeport, CT

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- Middle School Finalist - Medallion

Bristol St. Matthew School Danielle Persichetti
5004 Which Drink Has the Most Electrolytes?
Student(s) **Lily Chou** **Grade 7** **Town** Bristol

- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Robert Francoeur Memorial Awards --- Creative or innovative project in engineering, computer science or mathematics by female students - \$100

Bristol St. Matthew School Danielle Persichetti
2002 Which Moisturizer is Best?
Student(s) **Lauren Gillis** **Grade 7** **Town** Bristol

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 7th grade - CSF Medallion
- * Pepsico Engineering Awards --- 2nd Place- Engineering MS- \$200 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Brookfield Brookfield High School Jonathan Neuhausel
6048 Single Cell Multi-omics Analysis of Glioblastoma: Identification of Differently Expressed Genes and Diagnosis of Isocitrate Dehydrogenase Mutants
Student(s) **Shriya Jonnalagadda** **Grade 12** **Town** Brookfield

- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion

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

Cheshire Cheshire High School Julie Barker

6045 A Torticollis Tilt Alerting Device using MPU6050 Sensor, Vibration motor, and iOS and Android App Built Using Flutter

Student(s) **Suchita Srinivasan** **Grade** 10 **Town** Cheshire

- * Infosys Foundation Computer Science Awards --- 2nd Place High School - \$300, Plaque
- * Robert Francoeur Memorial Awards --- Creative or innovative project in engineering, computer science or mathematics by female students - \$100
- * Dreams Unlimited Award --- \$150 cash award and certificate
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

Danbury Saint Gregory the Great School Christine Fahey

5019 The Fastest Way to Solve a Rubik's Cube

Student(s) **Leonardo Lazzara** **Grade** 7 **Town** Brookfield

- * Connecticut Science Fair Association Physical Science Awards --- 4th Place- Physical Sciences 7th Grade Ind. - trophy

Danbury Westside Middle School Academy Nancy Barlow

1008 Air Purifier that Effectively Removes Air Toxins - PM 2.5 and Formaldehyde

Student(s) **Arlis Arias-Paulino** **Grade** 8 **Town** Danbury

Sivayazhini Sivasundar **Grade** 8 **Town** Danbury

Kuhutan Roy **Grade** 8 **Town** Danbury

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences MS Team- \$100 each & trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 4th Place Middle School - Trophy, Medallion
- * Alexion Biotechnology Awards --- 4th Place Biotechnology 8th grade- trophy

Danbury Westside Middle School Academy Nancy Barlow

1025 The Effect of Different Types of Grass on Soil Erosion

Student(s) **Sayam Dand** **Grade** 8 **Town** Danbury

Kylie Capone **Grade** 8 **Town** Danbury

Ayme Calero **Grade** 8 **Town** danbury

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion
- * Geology/Historic Project of Merit Award --- \$150 or 3 x \$50 - Earth Science - Field work with Geologic or historic value

Danbury Westside Middle School Academy Nancy Barlow

2518 The Effect of Different Substrates on the Growth of Mycelium

Student(s) **Milana Lenz** **Grade** 8 **Town** Danbury

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 3rd Place Middle School - \$100 and Trophy, Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

Danbury Westside Middle School Academy Nancy Barlow

4007 The Effectiveness of Different Distillation Methods for Desalination

Student(s) **Siddanth Ramakrishnan** **Grade** 7 **Town** Danbury

Patrick Madden **Grade** 7 **Town** Danbury

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Jr Team - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Freeman Family Excellence in Chemistry Awards --- \$100 For Excellence in Chemistry or Chemical Engineering - Middle School

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

Danbury Westside Middle School Academy Nancy Barlow

4012 Building a Versatile Air Sensor That Can Detect PM10 & PM2.5 in the Air

Student(s)	Sarvesh Ram Sankarnarayan	Grade 8	Town Danbury
	Gabrielle Anderson	Grade 8	Town Danbury
	Eleftherios Amperidis	Grade 8	Town Danbury, Ct

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 2nd Place Middle School - \$200 and Trophy, Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 3rd Place MS- \$100, Trophy
- * ISA - International Society for Automation - Ct. Valley Section --- 2nd - \$75 award
- * The Community Foundation for Greater New Haven Ecology, Environmental, and Alternative Energy Research Prize --- Urban Public School Environmental / Energy Award - \$250
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2024 Invention Convention, June 8

Danbury Westside Middle School Academy Nancy Barlow

1019 The Effects of Different Water Plants on Nitrate Water Levels

Student(s)	Samantha Suda	Grade 8	Town danbury
	Sarah Pacheco	Grade 8	Town Danbury
	Chelsea Dodoo	Grade 8	Town danbury

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

Danbury Westside Middle School Academy Nancy Barlow

1004 How Does Temperature Affect How Bright Bioluminescent Plankton Glow?

Student(s)	Montana Urban	Grade 7	Town Danbury
	Sebastian Madera-Guridy	Grade 7	Town Danbury
	Erin George	Grade 7	Town Danbury

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion

Danbury Westside Middle School Academy Nancy Barlow

4023 How do Different Strength Magnets Affect a Phone's Charging Speed

Student(s)	Kylie Wilson	Grade 8	Town Danbury
	Caleb Lopes	Grade 8	Town Danbury
	Carmelo McCollough	Grade 8	Town Danbury

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion

Darien Darien High School Christine Leventhal

6082 Simulating CMB temperature signal to analyze the effects of noise

Student(s)	Bo-Jun Qin	Grade 12	Town Darien
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- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Senior Award: Certificate, \$100 Cash

Darien Darien High School Guy Pratt

6064 An Investigation of Stone Reusual Construction Techniques Used in the Anasazi Community From 800-1200 AD In Southwestern United States Based on Stone Length-Width Ratios

Student(s)	Evelyn Trudel	Grade 12	Town Darien
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- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Amazon Gift Ccard from the Connecticut Architecture Foundation, William M. Mack, AIA Award for Innovation in Building Sustainability.

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

Enfield Chiaravalle Academy Tim Coleman

4022 Using Solar to Generate Electricity.

Student(s)	Keenan Cieslak	Grade 8	Town Monson
	Beau Dugas	Grade 8	Town Enfield
	Michael Bielanski	Grade 8	Town Enfield

- * Stanley Black & Decker Applied Technology Awards --- 1st Place Middle School - \$300 and Plaque, Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 1st Place Middle School - \$300 Cash and Trophy
- * IEEE, Connecticut Section --- \$100 Honorable Mention

Enfield Chiaravalle Academy Tim Coleman

1006 Plants vs. Wildfires

Student(s)	Megan Quinby	Grade 7	Town Windsor
	Arianna Plaz	Grade 7	Town Suffield
	Antonina Borodii	Grade 7	Town Enfield

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion

Enfield Chiaravalle Academy Timothy Coleman

1026 How Does Different Types of Food Affect A Chicks' Growth and Learning Ability?

Student(s)	Zoha Shamsi	Grade 7	Town Suffield
	Leah Caswell	Grade 7	Town Enfield
	Marin Czerwiec	Grade 7	Town Agawam

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion
- * Alexion Biotechnology Awards --- 3rd Place Biotechnology 7th grade - \$100 & trophy
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF

Fairfield Fairfield Woods Middle School Michael Sgoutas

4021 Automotive CO2 Emissions Bio-Filtration System

Student(s)	Alexander Majewski	Grade 7	Town Fairfield
	Parshwa Shah	Grade 7	Town Fairfield

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Jr Team - CSF Medallion
- * Pepsico Engineering Awards --- 3rd Place- Engineering MS \$100 & trophy

Farmington Farmington High School Alexandra Raymunt

6054 Steeping Towards Safety: Addressing Mycotoxin Risks in Coffee and Tea

Student(s)	Rhea Doshi	Grade 9	Town Farmington
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- * Connecticut Science Fair Association Physical Science Awards --- 4th Place- Physical Sciences Senior High Individual - Plaque
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion
- * Institute of Food Technologists, Nutmeg Section --- \$150 award + invitation to Awards Night Dinner with guest

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

Farmington Farmington High School Alexandra Raymunt

6068 Origami-Inspired Paper-Based Multiplex Device for Water Contamination Monitoring

Student(s) Jiayi Liu **Grade** 11 **Town** Farmington

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * ISA - International Society for Automation - Ct. Valley Section --- 1st - \$125 award
- * Southeastern New England Marine Educators (SEMEME) --- \$100 award and membership for student and teacher in SEMEME - 1st Place Senior
- * Aquarion Water Company --- 3rd \$100.00 Cash - Grade 9-12 For Excellence in Water Quality or Environment Management
- * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year) for exemplary 11th grade project

Farmington Farmington High School Xiaodi Wang

3100 Optimizing the LSTM Deep Learning Model for Arctic Sea Ice Melting Prediction

Student(s) Victoria Pegkou Christofi **Grade** 12 **Town** Unionville

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * M&T Bank Mathematics Awards --- 2nd Place High School- \$300 and Plaque

Farmington Miss Porter's School Christine Scanlon

3105 Testing Prevalence of Bacteria Resistant to Tetracycline, Sulfamethoxazole, and Chloramphenicol Antibiotics in Hotspot Connecticut Environments

Student(s) Sophia Pidvysotski **Grade** 12 **Town** Hartford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place High School \$300 / plaque

Glastonbury Glastonbury High School Diane Pintavalle

6023 ROLE OF GRAVITY IN OXYGEN GAS REMOVAL IN POLYMER ELECTROLYTE MEMBRANE WATER ELECTROLYZERS

Student(s) James Hall **Grade** 11 **Town** Glastonbury

- * EnergizeCT Alternative & Renewable Energy Awards --- High School Finalist - Medallion

Glastonbury Glastonbury High School Diane Pintavalle

3066 Proteomic Analysis of Autism-Associated Variants in Human ASPM Gene

Student(s) Presthika Vijaykumar **Grade** 11 **Town** Glastonbury

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion

Greenwich Brunswick School Dana Montanez

6015 Inertial Navigation Control System: Use of Reaction Wheels as an in-flight Steering Mechanism for Rockets

Student(s) Thomas Armstrong **Grade** 11 **Town** Greenwich

- * M&T Bank Mathematics Awards --- 1st Place High School- \$500 and Plaque
- * Yale Science & Engineering Association, Inc. --- 1 Certificate, Medallion and 1- \$25 gift card given by CSEF
- * U.S. Air Force --- Certificate & USAF Merchandise Package
- * American Institute of Aeronautics & Astronautics - Connecticut Section --- \$200 award, certificate
- * Astronomical Society of Greater Hartford - The Charles Hammond Award for Excellence in Astronomy --- Senior Project-\$150, subscription to Sky and Telescope, ASGH membership and meeting invitation

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

Greenwich Brunswick School Dana Montanez

6522 The Efficiency of Toroidal Propellers on Plane Engines and Boat Propellers

Student(s) **Thomas Carney** **Grade** 10 **Town** New Canaan
Pierce Crosby **Grade** 10 **Town** Greenwich

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
- * Vanderbilt Chemicals, LLC --- \$150 Vanderbilt Chemicals Award for Excellence in Tribology and Sustainable Lubrication
- * ISA - International Society for Automation - Ct. Valley Section --- 3rd - \$50 award

Greenwich Brunswick School Dana Montanez

6003 Removal of Aquatic Micro Pollutants Using Functionalized Nanoparticles of Iron-Oxide

Student(s) **Jack Degl** **Grade** 11 **Town** Mahopac

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion

Greenwich Brunswick School Dana Montanez

3085 Chlorophyll's Reflection of Infrared Light as a Method to Determine Overall Health of Phaseolus vulgaris and Solanum lycopersicum

Student(s) **Max Lanson** **Grade** 10 **Town** New Canaan

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

Greenwich Brunswick School Dana Montanez

3513 The Impact of Ocean Acidification on Photosynthetic Rates of Rhodomonas salina and Amphidinium

Student(s) **Eric Lorenz** **Grade** 11 **Town** Greenwich
Ryan Ahn **Grade** 11 **Town** White Plains

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

Greenwich Brunswick School Dana Montanez

6516 Water Testing with Ease: Creation of a handheld device for Water Analysis in Recently Flooded Areas.

Student(s) **William Pallone** **Grade** 10 **Town** Rye
Townsend Bancroft **Grade** 10 **Town** Greenwich

- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * Aquarion Water Company --- 2nd. \$150.00 Cash - Grade 9-12 For Excellence in Water Quality or Environmental Management

Greenwich Brunswick School Dana Montanez

3501 Developing an Organic Microbial Solution for the Plastic Accumulation Problem in Water Sources

Student(s) **Gabriel Trahanas** **Grade** 11 **Town** Riverside
Oliver Velasco **Grade** 11 **Town** Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences Senior High Team- \$300 (split) & Plaque
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

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

Greenwich Central Middle School Andrew Bramante

5514 The Synergistic Improvement of Indoor Air HEPA-Filtration using Concurrent Dehumidification

Student(s) Mikah Kaalund **Grade 8** **Town** Greenwich

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences 8th Grade Ind.- \$300 & trophy
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Physical Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Alexion Biotechnology Awards --- 1st Place Biotechnology 8th grade - \$300 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Society of Women Engineers - Hartford Section --- Scientific Calculator

Greenwich Central Middle School Andrew Bramante

2507 Modeling of Fairfield County Fresh-water and Estuary Waterways, to Highlight Contamination of their Ecosystems/Environments

Student(s) Briar Lissauer **Grade 8** **Town** Greenwich

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion
- * EnergizeCT Future Sustainability Awards --- 3rd Place Middle School - \$100 Cash and Trophy
- * Southeastern New England Marine Educators (SENEME) --- \$100 award and membership for student and teacher in SENEME - 1st Place Junior

Greenwich Central Middle School Andrew Bramante

2516 Development of a Simple Salivary Rapid Diagnostic for the Detection of Iodine Deficiencies

Student(s) Tyler Malkin **Grade 8** **Town** Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences 8th grade- \$300 & trophy
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Life Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Greenwich Central Middle School Andrew Bramante

5504 Simple Filtration of Fertilizer-ion Water Contaminants via Implementation of Phosphate and Nitrate Absorbency Pads

Student(s) Caroline Stowe **Grade 8** **Town** Greenwich

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences 8th Grade Ind. - \$200 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Aquarion Water Company --- 3rd. \$50.00 Cash - Grade 7-8 For Excellence in Water Quality or Environmental Management

Greenwich Eastern Middle School Andrew Bramante

2501 Design of a Smart-Bandage to provide lasting Itch-Relief and Healing for an Insect Bite.

Student(s) Lily Bittman **Grade 8** **Town** Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences 8th grade- \$200 & trophy
- * Stanley Black & Decker Applied Technology Awards --- 3rd Place Middle School - \$100 and Plaque, Medallion
- * Alexion Biotechnology Awards --- 2nd Place Biotechnology 8th grade - \$200 & trophy
- * Connecticut Science Supervisors Association --- \$125 for a middle school project

Greenwich Eastern Middle School Andrew Bramante

2506 Natural remedies research for seasonal allergies by Machine Learning of Crowd Information

Student(s) Arthur Lai **Grade 8** **Town** Greenwich

- * Pfizer Computational Biology and Bioinformatics Awards --- 1st Place Middle School - \$300, Trophy

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

Greenwich Eastern Middle School Andrew Bramante

2512 Emotionless Negotiator Droid

Student(s) **Louw Otto** **Grade 8** **Town** Riverside

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 8th grade - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- 2nd Place Middle School - \$200, Trophy

Greenwich Eastern Middle School Andrew Bramante

5502 Shedding Light on the Prevalence of Harmful Butylated Hydroxytoluene Preservative in Artificially Formulated Dog Foods.

Student(s) **Mackensey Wilson** **Grade 8** **Town** Old Greenwich

- * Pepsico Engineering Awards --- 1st Place- Engineering Middle School- \$300 & trophy
- * Alexion Biotechnology Awards --- 3rd Place Biotechnology 8th grade - \$100 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Wisner Chairman's Award --- \$500 cash & Plaque MS

Greenwich Greenwich Country Day School Nathan Haag

3024 Effects of Temperature on the Growth Rate, Survival Rate, and Breeding Rate of Multiple Generations of Neocaradina davidi, Cherry Shrimp

Student(s) **Michael Capek** **Grade 12** **Town** Rye

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Greenwich Greenwich High School Andrew Bramante

3113 Implementation of a Multi-Objective Genetic Algorithm to Optimize Resource Allocation in Disease Prevention

Student(s) **Isaac Bell** **Grade 10** **Town** Riverside

- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Otero Family Award --- The Otero Family Award; \$250 cash

Greenwich Greenwich High School Andrew Bramante

3025 Sonic Repulsion of Purple Sea Urchins to Reduce Degradation of Nascent Nereocystis luetkeana Forests

Student(s) **Owen Benison** **Grade 11** **Town** riverside

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 2nd Place HS- \$300, Plaque
- * Project Oceanology --- Individual - 1 Ocean Camp slot + T-Shirt & cap (swag), First Place 8, 9, 10 grader
- * GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project
- * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year) for exemplary 11th grade project

Greenwich Greenwich High School Andrew Bramante

6081 Genetic Engineering of Cryobacterium to Increase Silica Content and Enhance the Glacial Albedo of Black Arctic Oceans

Student(s) **Justin Bernstein** **Grade 11** **Town** Greenwich

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF

Greenwich Greenwich High School Andrew Bramante

3142 Development of Non-Invasive Diagnostic Tool for Lipedema Using Colorimetric Analysis of Skin Reflectance

Student(s) **Hannah Dcruz** **Grade 9** **Town** Riverside

- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

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

Greenwich Greenwich High School Andrew Bramante

3071 Fabrication of a Europium-based Magnetic Nanosensor for the Detection of D-Serine in Early-onset Alzheimers

Student(s) Ava Jackson **Grade** 11 **Town** Old Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences Senior High- \$300 & Plaque
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion
- * U.S. Metric Association --- Certificate & \$25 gift card given by CSEF
- * Connecticut Science Supervisors Association --- \$125 for a high school project

Greenwich Greenwich High School Andrew Bramante

6058 Detection of Nanoplastics within Complex Environmental and Food Resource Matrices via Machine Learning

Student(s) Henry Jin **Grade** 10 **Town** Greenwich

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Aquarion Water Company --- 1st, \$250.00 Cash - Grade 9-12 For Excellence in Water Quality or Environmental Management

Greenwich Greenwich High School Andrew Bramante

3055 Development and In vitro Verification of a Polymersome for Blood-Brain Barrier Transport Through a Novel Machine Learning Model

Student(s) Ashley Malkin **Grade** 11 **Town** Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences Senior High- \$500 & Plaque
- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion
- * H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering --- Life Sciences Senior 1st HS- \$1,000, Solid Silver Medal of Excellence, Invite to CASE Annual Mtg
- * Alexion Biotechnology Awards --- 4th Place Biotechnology Senior High - plaque

Greenwich Greenwich High School Andrew Bramante

3009 Rapid Detection of Stress Biomarker Cortisol via a Molecularly Imprinted Polypyrrole Sensor

Student(s) Ryan Wadhwa **Grade** 10 **Town** Riverside

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion

Greenwich Greenwich High School Andrew Bramante

3020 Oral Delivery of Anticoagulant Dabigatran via a Mg-Micromotor Encapsulant Within a Gastric-Resistant Tablet for Ischemic Stroke Treatment

Student(s) Lula Wang **Grade** 9 **Town** Old Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- 1st Place Biotechnology Senior High - \$500 & plaque
- * Regeneron Biomedical Science Award --- Certificate & \$375.00 cash

Greenwich Greenwich High School Andrew Bramante

6019 Reinforcement Learning Optimization of Placement of Public Vehicle Charging Stations using a Novel Parking Demand Model

Student(s) Marley Wies **Grade** 10 **Town** Old Greenwich

- * M&T Bank Mathematics Awards --- 3rd Place High School - \$200 and Plaque
- * Infosys Foundation Computer Science Awards --- 3rd Place High School- \$200, Plaque
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Maplesoft Awards for Applied Mathematics and Modeling --- Maple software, gift packs, & T-shirt - For Excellence in Mathematics

Greenwich Greenwich High School Andrew Bramante

3045 Implementation of Wearable, Bluetooth Gyroscopic Sensing for Smartphone Remote Monitoring of Patient Mobility

Student(s) Alexander Zhao **Grade** 11 **Town** Greenwich

- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

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

Hamden Hamden Hall Country Day School Daniel Cuneo

6512 Using Quantum-assisted Machine Learning in Maize Yield Prediction through Environmental Patterns.

Student(s) **Helena Chaine** **Grade** 11 **Town** Orange

Yue Zhuo **Grade** 12 **Town** Hamden

Linda Chen **Grade** 10 **Town** Woodbridge

* EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

* Biophysical Society --- Biophysics Award- \$100

Hamden Hamden Hall Country Day School Gina D'Angelo

6025 Deep learning based drug response prediction algorithm about synergistic and antagonistic responses of cell lines and drug combos.

Student(s) **Jiahui Chen** **Grade** 11 **Town** New Haven

* Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

* Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion

* Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

* Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion

* Lunch with a Patent Attorney --- Lunch with a Patent Attorney

Hamden Hamden Hall Country Day School Paulomi Aldo

2008 How Does Temperature Effect Nitrogen Fixation Pods in Legumes

Student(s) **Kinan Harb** **Grade** 7 **Town** Milford

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 7th grade - CSF Medallion

Hamden Hamden Hall Country Day School Robert Link

3011 Using an AI algorithm to minimize the number of punctures attempted during blood draw or IV insertion.

Student(s) **Neev Makin** **Grade** 10 **Town** Hamden

* Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion

Hamden Hamden Hall Country Day School Frank Gasparro

3017 Effect of Hydroxyapatite Encapsulation on the Transdermal Diffusion and Photodegradation of Avobenzone and Octinoxate to Enhance Sunscreen Safety

Student(s) **Sophia Vash** **Grade** 10 **Town** Fairfield CT

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

* Freeman Family Excellence in Chemistry Awards --- \$200 For Excellence in Chemistry or Chemical Engineering - High School

Kent Kent School Jesse Klingebiel

6032 CardioXNet: Representation Learning for Accurate Cardiovascular Disease Diagnosis from X-ray Images

Student(s) **Jiwon Hwang** **Grade** 10 **Town** Kent

* Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

* J.A. Augustine and H. Glista Awards --- \$100 H. Glista Award for Physical Sciences

Manchester Manchester High School Wendy Turek-Hernandez

3138 Determining the incidence of Beech Leaf Disease symptom severity based on overwintering nematode abundance in Fagus grandifolia buds

Student(s) **Dina Watson** **Grade** 12 **Town** Manchester

* The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion

* Alumni Botany Awards --- Alumni High School Botany Award- \$100 Cash

[SchTown] [School] [Teacher]
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Manchester Saint James School Ellen Oei

5017 Crusty n' Rusty

Student(s) **Brendan Abbamonte** **Grade 7** **Town** Vernon

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences 7th Grade Ind. - \$200 & trophy
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Manchester Saint James School Ellen Oei

5007 Affect of Color on Heat Absorption

Student(s) **Saanvi Sethi** **Grade 7** **Town** Manchester

- * Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place- Middle School- \$200 / trophy
- * Alexion Biotechnology Awards --- 5th Place Biotechnology 7th grade - trophy
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Junior Award: Certificate, \$100 Cash
- * J.A. Augustine and H. Glista Awards --- \$100 for excellence in Physical Sciences

Milford Platt Technical High School Lori Grace

3502 NatureCare Project

Student(s) **Diogo Gaudencio** **Grade 12** **Town** bridgeport

Yossias Mulualem **Grade 12** **Town** ansonia

Maritza Portillo **Grade 12** **Town** west haven

- * EnergizeCT Technical High School Science & Technology Awards --- Technical High School Finalist - medallion
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Amazon Gift Card from the Connecticut Architecture Foundation, William M. Mack, AIA Award for Innovation in Building Performance.

Milford Platt Technical High School Lori Grace

6517 Eco-Filter

Student(s) **Nabila Kandawala** **Grade 11** **Town** Bridgeport

Nariah Joyner **Grade 11** **Town** West Haven

Daniela de Oliveira **Grade 11** **Town** Stratford

- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

New Haven Engineering and Science University Magnet School Alyssa Anderson

3078 Investigating the Relationship Between the Size of Blood Clots, Blood Flow Rate, and Anticoagulants in the Cardiovascular System for the Implementation in Ischemic Stroke Patients

Student(s) **Temiladeoluwa Adeniran** **Grade 11** **Town** Seymour

- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

New Haven Engineering and Science University Magnet School Roger Rushworth

3126 Advanced Hybrid Water Treatment Systems: A Comparative Study of Membrane Filtration, Adsorption, and Photocatalysis for Comprehensive Contaminant Removal

Student(s) **Saket Aliminate** **Grade 10** **Town** Milford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition

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

New Haven Engineering and Science University Magnet School Roger Rushworth
6036 Evaluating Hyperparameter Tuned Machine Learning Classifiers for Pancreatic Cancer Detection via Urinary Biomarkers

Student(s) **Nivriith Ananth Iyer** **Grade** 10 **Town** West Haven

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

New Haven Engineering and Science University Magnet School Roger Rushworth
3050 Implementation of a Computationally Efficient Machine-Learning-Based System to Diagnose Cervical Cancer via Numerical Feature Extraction and Multivariate Regression

Student(s) **Ethan Joseph** **Grade** 9 **Town** West Haven

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 4th Place High School - Plaque, Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

New Haven Engineering and Science University Magnet School Alyssa Anderson
6052 Synthesis of Porous Polymer Sponge Matrix using Modified Sodium Alginate Clay Compound for Adsorptive Removal of Microplastics and Oil from Contaminated Water

Student(s) **Snigtha Mohanraj** **Grade** 11 **Town** Ansonia

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 5th Place High School - Plaque, Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * U.S. Metric Association --- Certificate & \$25 gift card given by CSEF
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition
- * The Community Foundation for Greater New Haven Ecology, Environmental, and Alternative Energy Research Prize --- Urban Public School Environmental / Energy Award - \$250

New Haven Hopkins School Phillip Stewart
6055 Profit from stock pricing

Student(s) **Christina Cao** **Grade** 11 **Town** Trumbull

- * M&T Bank Mathematics Awards --- High School Finalist - Medallion
- * University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Science or mathematics, Grade 11 only - \$30,000 (\$7,500/year)

New Haven Sound School Charles Mulligan
6511 Potential Impact of Watershed Runoff and Tidal Inundation on the Hydrologic Profile of a Coastal March

Student(s) **Cora FitzGerald** **Grade** 11 **Town** Guilford
Tamzin Maines **Grade** 11 **Town** Old Saybrook

- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF

New Haven Worthington Hooker School Douglas Jones
1020 Biodegradable Hydrogels: Improving our Agriculture's Sustainability

Student(s) **Sofia Janiga** **Grade** 8 **Town** New Haven
Azalea Deener **Grade** 8 **Town** New Haven

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion
- * NYUC Pony Club Equine or Animal Science Award --- \$100 Cash Award for excellence in equine studies

[SchTown] [School] [Teacher]
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New Haven Worthington Hooker School Douglas Jones

2503 The Influence of Various Factors on Yeast Fermentation

Student(s) **Roko Skarica** **Grade 8** **Town** New Haven

* Life Science Awards with support from Boehringer Ingelheim --- 4th Place- Life Sciences 8th grade- trophy

Newtown Newtown High School Timothy DeJulio

3083 Using Sunscreen as a way to distribute Beneficial Microorganisms for Corals (BMCs)

Student(s) **Lydia Cox** **Grade 11** **Town** newtown

* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

* University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year) for exemplary 11th grade project

Newtown Newtown High School Timothy DeJulio

6088 The Effect of Road Usage Frequency on the Quality of Soil

Student(s) **Nathan Twitchell** **Grade 11** **Town** Newtown

* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion

Norwich Norwich Technical High School Aleatha Pelloni

3129 The Application of Amygdalin as an Early Stage Medicinal Cancer Therapy to act as an Accessible Option on a National Scale

Student(s) **Emerson Alexy** **Grade 12** **Town** Old Saybrook

* EnergizeCT Technical High School Science & Technology Awards --- Technical High School Finalist - medallion

* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

Norwich Norwich Technical High School Aleatha Pelloni

3526 Cultivating Green Growth: Harnessing Electroculture for Sustainable Gardening Practices

Student(s) **Sophia Caballero** **Grade 11** **Town** Norwich

Alejandra Cardona **Grade 11** **Town** New London

* EnergizeCT Technical High School Science & Technology Awards --- 2nd Place- Technical High School , \$300, Plaque

* EnergizeCT Future Sustainability Awards --- 3rd Place High School - \$200 Cash and Plaque

* Association for Women Geoscientists --- Certificate & \$25 gift card given by CSEF

* Society for In Vitro Biology --- Certificate and \$25 gift card given by CSEF

Norwich Norwich Technical High School Aleatha Pelloni

3509 Renewable fuel using anaerobic digestion

Student(s) **Jasmine Coulombe** **Grade 11** **Town** Chaplin

Tessa Lambert **Grade 11** **Town** Scotland

* Life Science Awards with support from Boehringer Ingelheim --- 3rd Place - Life Sciences Senior High Team - Plaque

* EnergizeCT Technical High School Science & Technology Awards --- 1st Place- Technical High School, Plaque & Stipend to Compete at GENIUS Olympiad

* EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

* GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place Technical High School

Norwich Norwich Technical High School Suzanne Edwards

6066 A Mathematical Analysis of the Variables Impacting the Performance of Wind Turbines as the Energy Converts from Kinetic to Mechanical to Electrical

Student(s) **Leah Kozerefski** **Grade 9** **Town** Gilman

* EnergizeCT Technical High School Science & Technology Awards --- Technical High School Finalist - medallion

* Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- High School \$500 / plaque

* EnergizeCT Alternative & Renewable Energy Awards --- 3rd Place High School - \$200 Cash and Plaque

* EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

* U.S. Air Force --- Certificate & USAF Merchandise Package

* Society of Women Engineers - Hartford Section --- Scientific Calculator

[SchTown] [School] [Teacher]
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Norwich Norwich Technical High School Aleatha Pelloni

3141 Using Evolutionary Adaptation of Bacteria with Artificial Pressures from UV Radiation to Create Antibiotic Activity

Student(s) **Elijah Smith** **Grade 12** **Town** Norwich

* EnergizeCT Technical High School Science & Technology Awards --- 3rd Place- Technical High School , \$200, Plaque

Redding CT STEM Fair Joyce Reed

3052 Determining the Ability of Different Mosses and Plants to Remove Algae Causing Phosphates and Nitrates From Water

Student(s) **Emma Cannon** **Grade 11** **Town** New Canaan

* Life Science Awards with support from Boehringer Ingelheim --- 5th Place- Life Sciences Senior High- Plaque
* Association for Women Geoscientists --- Certificate & \$25 gift card given by CSEF
* NYUC Pony Club Equine or Animal Science Award --- \$100 Cash Award or excellence in equine studies

Redding CT STEM Fair Catherine Piscitelli

3060 Determining Trail Making Test B Accuracy in Predicting Driving Preparedness in Pre-Driving-Age Adolescents

Student(s) **Mila Mejnartowicz** **Grade 10** **Town** Woodbridge

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Ridgefield Ridgefield High School Ryan Gleason

3120 The Effect of Plant Based Proteins vs Animal Based Proteins on Sleep Quantity (Soy vs. Beef)

Student(s) **Emily Yee** **Grade 12** **Town** Ridgefield

* Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Salisbury The Hotchkiss School Jungah Song

3081 Antioxidative Effects of Sargassum horneri on Alleviating Neurodegeneration Induced by Sustained Alcohol Exposure on Caenorhabditis elegans Model

Student(s) **Remy Lee** **Grade 10** **Town** Lakeville

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Shelton Shelton Intermediate School Erica McNeil

5001 Shot Power

Student(s) **Brooke Plain** **Grade 7** **Town** Shelton

* Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- Middle School \$300 / trophy

Shelton Shelton Intermediate School Erica McNeil

5018 What kinds of cereals get soggy in milk?

Student(s) **Sneh Shah** **Grade 7** **Town** Shelton

* M&T Bank Mathematics Awards --- 3rd Place Middle School - \$100 and Trophy

Simsbury Westminster School Suzanne Bailey

6043 Dual-Degree-of-Freedom Pneumatic Shoulder Rehabilitation Device Based on Flexible Materials

Student(s) **Meiyin Ren** **Grade 11** **Town** Simsbury

* Connecticut Science Fair Association Physical Science Awards --- 1st Place - Physical Sciences Senior High Individual - \$500 & Plaque
* H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering --- Physical Sciences 1st HS \$1,000, Solid Silver Medal of Excellence, Invite to CASE Annual Mtg
* Zepke Awards --- \$125 - For the Best Use of Electronic Circuitry- Senior High

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South Windsor South Windsor High School Danel Eitel

6501 The Use of Piezoelectric Technology for a more Efficient and Cost-Effective Approach to Electronics Cooling

Student(s) **Adithya Anand** **Grade** 11 **Town** South Windsor
Jason Thokchom **Grade** 11 **Town** South Windsor

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences Senior High Team- \$300(split) & Plaque
- * EnergizeCT Alternative & Renewable Energy Awards --- High School Finalist - Medallion
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100

South Windsor South Windsor High School Danel Eitel

3524 MushBox: In Situ Biodegradation of Municipal Solid Waste through Mycoremediation via Mycelium and Cellulosic Waste Integration

Student(s) **Samarth Basanth** **Grade** 10 **Town** South Windsor
Tejbir Litt **Grade** 10 **Town** South Windsor

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences Senior High Team- \$500 (split) & Plaque
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 1st Place HS- Plaque and \$700 Stipend to Compete at GENIUS Olympiad
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Environmental Project

South Windsor South Windsor High School Danel Eitel

3534 Elements of Ecology, the Institution for Innovation and Environmentally Beneficial Invasive Plant Removal Projects

Student(s) **Srinidhi Karthik** **Grade** 10 **Town** South Windsor
Nishigandha Bhambure **Grade** 10 **Town** South Windsor

- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

South Windsor South Windsor High School Danel Eitel

3510 A novel approach to preventing the PrPsc induced neurotoxicity which characterizes Creutzfeldt-Jakob disease through the inhibition of Glypican-1

Student(s) **Smriti Rajan** **Grade** 11 **Town** South Windsor
Sanjay Rajan **Grade** 9 **Town** South Windsor

- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion

South Windsor South Windsor High School Danel Eitel

6507 Optimized Magneto-Inertial Fusion for Practical Use

Student(s) **Jeremy Shiju** **Grade** 11 **Town** South Windsor High School
Akshaj Nadimpalli **Grade** 11 **Town** South Windsor
Daniel Stoyanov **Grade** 11 **Town** South Windsor

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place - Physical Sciences Senior High Team - Plaque
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

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South Windsor South Windsor High School Kevin Snyder

6013 Scientific understanding of solar physics with image based neural networks

Student(s) Pragyan Yadav **Grade 12** **Town** South Windsor

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- 1st Place High School - \$500, Plaque
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Physical Sciences - Co-Op \$100 Gift Certificate

Southington Joseph A. Depaolo Middle School Halime Agirman

2514 Global Warming Management through Utilization of naturally occurring resources such as Eggshell-Derived Calcium Carbonate in Global Warming Reduction

Student(s) Esra Agirman **Grade 8** **Town** Southington

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion
- * NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF
- * Talcott Mountain Science Center & Academy --- TMSC Founder's Award - Middle School Life Science - Scholarship to one Summer or Saturday Program at TMSC - Value \$435
- * National Center for Inquiry Learning --- Daniel & Maggie Award for Imagination - MS \$100

Stamford Academy of Information Technology and Joshua Bogard

3035 A Novel Machine Learning Model for Estrous Cycle Classification in Mice

Student(s) Saachi Goyal **Grade 11** **Town** Stamford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Pfizer Computational Biology and Bioinformatics Awards --- 2nd Place High School - \$300, Plaque
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 1st Place High School - \$500 and Plaque, Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering --- \$500 to 1st HS Urban School Challenge Science Department for Equipment/Supplies

Stamford Bi-Cultural Hebrew Academy Chris Graseck

2004 Growing algae in different salinities

Student(s) Aaron Palker **Grade 7** **Town** Stamford

- * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences 7th grade- \$100 & trophy

Stamford King School Victoria Schulman

6072 Clonal Evolution of Non-Small Cell Lung Cancer Reveals TP53/EGFR Maintenance and SETD2 Selection in Metastases

Student(s) Parker Hayashi **Grade 11** **Town** Riverside

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

Stamford King School Victoria Schulman

6097 DETICKT IT: A Machine Learning-Based Application for Real-Time Tick Identification and Spatiotemporal Disease Risk Assessment

Student(s) Antonia Kolb **Grade 12** **Town** New Canaan

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences Senior High Individual - \$200 & Plaque
- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Christopher T. Borowiec Excellence in Innovation Awards --- \$100 Cash for Excellence in Innovation with emphasis in Artificial Intelligence

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Stamford King School Victoria Schulman

3044 Gender-Related Differences in a Murine PCSK9 and HFD Model of Atherosclerosis

Student(s) Layla Shah **Grade** 12 **Town** Wilton

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Stonington St. Michael School Anna-Helene Grossomanides

5008 Expensive Fails or, Long Lasting Nails

Student(s) Maeve Nicholas **Grade** 7 **Town** Stonington

* Pepsico Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion

* Talcott Mountain Science Center & Academy --- TMSC Founder's Award - Middle School Physical Science - Scholarship to one Summer or Saturday Program at TMSC - Value \$435

Suffield Suffield Academy Michael Zappala

3002 Dental Nutrients' Delivery Through the Intraoral Cavity with a Toothpaste Using Penetration Enhancers

Student(s) MJ Choi **Grade** 10 **Town** Brookline

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Trumbull Christian Heritage School Nicole Camacho

5515 How does the pH of a liquid affect its spherification?

Student(s) Gaia Cioppa **Grade** 8 **Town** Greenwich

* Connecticut Science Fair Association Physical Science Awards --- 5th Place- Physical Sciences 8th Grade Ind. - trophy

Trumbull Christian Heritage School Daniel Cote

6102 Vision Through AI: Assisting the Visually Impaired By Building AI Smart Glasses

Student(s) Daylin Jerome **Grade** 11 **Town** Bridgeport

* Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

* Office of Naval Research- U.S. Navy / U.S. Marine Corps --- HS School- Certificate, \$75.00 gift card given by ONR

* University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Science or mathematics, Grade 11 only - \$30,000 (\$7,500/year)

* Wisner Chairman's Award --- \$500 cash & Plaque HS

* Susan and Stanley Lessoff Memorial --- Susan and StanleyLessoff Memorial Award - \$250 Cash and Plaque HS

Trumbull Christian Heritage School Nicole Camacho

5505 How do different substances affect how light is bent

Student(s) Joshua Joseph **Grade** 8 **Town** Milford

* M&T Bank Mathematics Awards --- 1st Place Middle School- \$300 and Plaque

Trumbull Christian Heritage School Nicole Camacho

2517 Do Storm drains keep trash out of water ways?

Student(s) Juliette Schwartz **Grade** 8 **Town** Shelton

* Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion

* National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF

* Schoepfer Award for Excellence in Local Aquatic Science --- For excellence in a local water quality study, \$100 cash

Wallingford Choate Rosemary Hall Jan Cook

6051 Properties of Certain Quadrilaterals of Triangle Centers

Student(s) Kay Yeon Lee **Grade** 11 **Town** Wallingford

* M&T Bank Mathematics Awards --- High School Finalist - Medallion

* Pepsico Engineering Awards --- 3rd Place- Engineering Senior High- \$200 & plaque

* Maplesoft Awards for Applied Mathematics and Modeling --- Maple software, , gift packs, & T-shirt - For Excellence in Mathematics

* Susan and Stanley Lessoff Memorial --- Susan and StanleyLessoff Memorial Award - \$250 Cash and Plaque HS

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Wallingford Choate Rosemary Hall Yingxin Gao

3121 Identifying the Patterns in the Progression of Alzheimer's Disease

Student(s) Ann Song **Grade** 11 **Town** Farmington

- * Pfizer Computational Biology and Bioinformatics Awards --- 3rd Place High School - \$200, Plaque
- * Alexion Biotechnology Awards --- 5th Place Biotechnology Senior High - plaque

Wallingford Choate Rosemary Hall Chenglin Miao

3006 Spatial Learning and Memory: Finding and Investigating Place Cells in the Hippocampus

Student(s) Yumeng Wang **Grade** 10 **Town** Wallingford

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Wallingford Choate Rosemary Hall Andrew Murgio

6525 AgriBotanical: An Intelligent Continuum-Maneuver Robot for Monitoring and Managing Arboreal Wild Bee Colonies

Student(s) Jingyuan Zhang **Grade** 11 **Town** Wallingford

Xiyin Yang **Grade** 11 **Town** Wallingford

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences Senior High Team- \$500 (split) & Plaque
- * Stanley Black & Decker Applied Technology Awards --- 1st Place High School - \$500 and Plaque, Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Pepsico Engineering Awards --- 2nd Place- Engineering Senior High- \$300 & plaque
- * MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Applied Principles Award - \$250
- * IEEE, Connecticut Section --- \$250 Honors Award -Senior
- * Arthur & Ruth Mensing Awards --- Mensing Award Excellence in the High School Physical Sciences - \$500

Waterbury ACES at Chase Sandra Solimene

5511 Creating Cost- Effective Eco-Friendly Insulation

Student(s) Andrew Daukas **Grade** 8 **Town** Middlebury

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences 8th Grade Ind, - \$100 & trophy
- * Alexion Biotechnology Awards --- 5th Place Biotechnology 8th grade- trophy

Waterbury ACES at Chase Sandra Solimene

5503 The Bag that Saved the Homeless

Student(s) Eualeise Diaz **Grade** 8 **Town** Meriden

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences 8th Grade - CSF Medallion
- * Demos R Us Awards --- \$200 Cash Award- Clear Execution of Research- 8th Grade
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2024 Invention Convention, June 8

Waterbury ACES at Chase Kelly Horan

5005 What Design of Mesh Water Filtration Device Most Effectively Removes Microplastics?

Student(s) Jacob Godfrey **Grade** 7 **Town** Waterbury

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 5th Place Middle School - Trophy, Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * National Center for Inquiry Learning --- Daniel & Maggie Award for Imagination - MS \$100
- * Aquarion Water Company --- 1st. \$150.00 Cash - Grade 7-8 For Excellence in Water Quality or Environmental Management
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 7th grader- Project Oceanology's Ocean Camp - \$900

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

Waterbury ACES at Chase Lisa Debany

4015 Mycelium Trash Bags vs Plastic Trash Bags

Student(s) **Greyson Sauer** **Grade 7** **Town** Prospect
Mason Mantz **Grade 7** **Town** Waterbury

* Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion

Waterbury ACES at Chase Lisa Debany

2005 Reducing Lycorma delicatula, Lantern Fly, Infestation: Using Essential Oils to Address Crop Damage and Food Shortages.

Student(s) **Besjana Veliu** **Grade 7** **Town** Waterbury

* Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences 7th grade- \$300 & trophy
* Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
* Alexion Biotechnology Awards --- 4th Place Biotechnology 7th grade - trophy
* Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Westport Greens Farms Academy Juli Gerdes

3101 The Effect of Resveratrol on ALS Positive Flies Locomotor Dysfunction

Student(s) **Lilly Hogan** **Grade 12** **Town** Westport

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Westport Greens Farms Academy Mathieu Freeman

5014 Novel Radiation Shielding for Radiation Therapy and Arabidopsis on Mars

Student(s) **Dylan Karpf** **Grade 7** **Town** Westport

* Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences 7th Grade Ind. - \$300 & trophy
* Pepsico Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
* Alexion Biotechnology Awards --- 1st Place Biotechnology 7th grade - \$300 & trophy
* Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
* Astronomical Society of Greater Hartford - The Charles Hammond Award for Excellence in Astronomy --- Junior Project-\$150, subscription to Sky and Telescope, ASGH membership and meeting invitation
* Electric Boat Management Association Science and Engineering Research Awards --- Top Prize in Nuclear Energy - \$100 Cash for top project that has innovative nuclear applications
* Demos R Us Awards --- \$150 Cash Award-- Clear Execution of Research- 7th Grade

Westport Greens Farms Academy Matthew Freeman

3013 Role of Protein Expression in Diatom Chain Formation

Student(s) **Charlotte Wagner** **Grade 12** **Town** Southport

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Westport Staples High School Amy Parent

3098 The Effect of Diet Composition on the Growth and Development of Colorectal Cancer Tumors in the Drosophila Midgut

Student(s) **William Boberski** **Grade 11** **Town** Westport

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

Westport Staples High School Amy Parent

3136 Impact of organic fertilizers on soil microbial activity and carbon sequestration in baby lettuce

Student(s) **Tessa Cassell** **Grade 12** **Town** Westport

* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion

[SchTown] [School] [Teacher]
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Westport Staples High School Amy Parent

3128 The Effect of Activating ATR-Kinase on Zygotic Stress, Survival, and DNA Damage

Student(s) Sara De Pinho **Grade** 11 **Town** Westport

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Wilton Middlebrook School Paige Randall

5016 FINDING ENERGY CONTENT IN FOOD BY USING CALORIMETER

Student(s) Kanira Baskar **Grade** 7 **Town** WILTON

* Connecticut Science Fair Association Physical Science Awards --- 5th Place- Physical Sciences 7th Grade Individual - trophy

Wilton Middlebrook School Allison Norful

1014 Growing Pleustrus Ostreatus Mycelium with Full Synthetic Engine Lubricant to Create Biodegradable Alternatives to Supersede Environmentally-Harmful Substances

Student(s) Arav Gupta **Grade** 8 **Town** Wilton

Gopika Kaimal **Grade** 8 **Town** Wilton

* Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences MS Team- trophy

Wilton Middlebrook School Janica Bagosy

5510 Burnt: A web-based application to help adolescents self-assess and seek help for stress and poor mental health

Student(s) Jackson Norful **Grade** 8 **Town** Wilton

* Connecticut Science Fair Association Physical Science Awards --- 4th Place- Physical Sciences 8th Grade Ind. - trophy

* Pfizer Computational Biology and Bioinformatics Awards --- 2nd Place Middle School - \$200, Trophy

* Infosys Foundation Computer Science Awards --- 3rd Place Middle School- \$100, Trophy

* Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

Wilton Middlebrook School William Desroches

1017 BEAT THE PEAT - RICE HUSK, THE SUSTAINABLE AND ECO-FRIENDLY ALTERNATIVE TO PEAT MOSS

Student(s) Kabir Rokkam **Grade** 7 **Town** WILTON

Shushruth Balaji **Grade** 7 **Town** Wilton

* Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences MS Team- \$150 each & trophy

* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 1st Place MS - \$300, Trophy

* Alexion Biotechnology Awards --- 2nd Place Biotechnology 7th grade - \$200 & trophy

* Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Wilton Wilton High School Nikolas D'Agnesse

6008 Fiscatch: A Phishing Detection Website

Student(s) Rohil Jain **Grade** 12 **Town** Wilton

* Connecticut Science Fair Association Physical Science Awards --- 5th Place- Physical Sciences Senior High Individual - Plaque

* Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Wilton Wilton High School Matthew Hoyt

3059 A Novel AI-Driven Approach for Tracking and Managing Invasive Plant Species

Student(s) Shriya Natarajan **Grade** 10 **Town** Wilton

* Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences Senior High- \$200 & Plaque

* Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion

* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion

* Banning Family Life Science Award --- For excellence in invasive species research, \$100 cash

[SchTown] [School] [Teacher]
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Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [6524] The Effect of Spatial Orientation of Panels in a Three-Dimensional Solar Tower
Student(s) **Jair Andrew** **Grade 10** **Town** Ellington
Sriraam Sundararaman **Grade 10** **Town** Newington

* EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [6028] Investigations into the Link Between the Water Quality and Social Inequity.
Student(s) **Constanza Barria Lopez** **Grade 10** **Town** Hartford

* Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [6009] Reinforcing the Cybersecurity of Medical Data via Software Countermeasures against Malware in Heart Monitoring Technology
Student(s) **Sujay Chava** **Grade 11** **Town** Ellington

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Frontiers in Science - Co-Op \$100 Gift Certificate
- * Zepke Awards --- \$125 - For the Best Use of Electronic Circuitry- Senior High

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [6002] Integrating Piezoelectric Sensors and Photovoltaic Material in an Artificial Energy-Harvesting Model Tree
Student(s) **Laasya Chintapalli** **Grade 11** **Town** Farmington

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 2nd Place High School - \$300 Cash and Plaque
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [2003] The Study Of Novel Toothbrush Cleaning Methods To Decrease Bacterial Surface Growth Using Ultraviolet (UV) Germicidal Light And Mouthwash
Student(s) **Ana-Marlene Davis** **Grade 7** **Town** Broad Brook

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences 7th grade- \$200 & trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion

Windsor Academy of Aerospace and Engineering Michelle Bellinger
 [4019] Using Vortex Hydropower Turbines to Harvest Electrical Energy
Student(s) **Marcus Davis** **Grade 8** **Town** Broad Brook
Dylan Gao **Grade 7** **Town** Coventry

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences MS Team- \$100 each & trophy
- * EnergizeCT Alternative & Renewable Energy Awards --- Middle School Finalist - Medallion
- * Robotics And Beyond --- Middle School- For excellence in engineering design; \$230 toward Robotics And Beyond STEM and Design summer camp, \$50 cash if cannot attend camp, Certificate.

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Windsor Academy of Aerospace and Engineering Michelle Bellinger

3004 Therapeutic Potential of Antibody Drug Conjugates Targeting The Expression of Trophoblast Cell-Surface Antigen 2 (TROP-2) On High Grade Serous Epithelial Ovarian Carcinoma

Student(s) Ana-Lois Davis **Grade** 12 **Town** Broad Brook

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 2nd Place High School - \$300 and Plaque, Medallion
- * Alexion Biotechnology Awards --- 3rd Place Biotechnology Senior High - \$200 & plaque
- * The Community Foundation for Greater New Haven's Milton Fisher Awards for Innovation and Creativity --- For Excellence in Creativity and Innovation by a High School student, \$100 cash

Windsor Academy of Aerospace and Engineering Michelle Bellinger

6515 The Effect of Surface Texture on the Efficiency of a Spoiler (airfoil) in Formula 1 Race Cars.

Student(s) Willard Davis **Grade** 10 **Town** Broad Brook

Peter Davis **Grade** 10 **Town** Broad Brook

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion

Windsor Academy of Aerospace and Engineering Michelle Bellinger

3054 Optimizing Laterite Soil Microbial Fuel Cells for Community-Centric Electricity Generation in Tropical Underdeveloped Regions

Student(s) Namyanzi Edwards **Grade** 11 **Town** New Britain

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Senior High Finalist - Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- High School Finalist - Medallion
- * EnergizeCT Future Sustainability Awards --- 2nd Place High School - \$300 Cash and Plaque
- * Society for In Vitro Biology --- Certificate and \$25 gift card given by CSEF
- * IEEE, Connecticut Section --- \$250 Honors Award -Senior
- * GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project
- * The Community Foundation for Greater New Haven Ecology, Environmental, and Alternative Energy Research Prize --- Urban Public School Environmental / Energy Award - \$250
- * University of Connecticut Academic Excellence Scholarship --- Academic Excellence Scholarship - (amount undefined) to a junior)

Windsor Academy of Aerospace and Engineering Michelle Bellinger

6079 Using Biomimicry to Harvest Energy from the Sinusoidal Motion of an Eel

Student(s) Vikram Haran **Grade** 11 **Town** Ellington

- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 1st Place High School - \$500 Cash and Plaque
- * EnergizeCT Future Sustainability Awards --- 1st Place High School - Plaque & \$700 Stipend to Compete at GENIUS Olympiad
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Future Sustainability

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Windsor Academy of Aerospace and Engineering Michelle Bellinger

4011 Using Piezoelectric Sensors to Harvest Energy from Automobile Tires and the Road Surface

Student(s) **Palaniappan Manikandan** **Grade 8** **Town** Ellington
Duke Clotey **Grade 8** **Town** Hartford

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 1st Place Middle School - \$300 and Trophy, Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 3rd Place Middle School - \$100 Cash and Trophy
- * EnergizeCT Future Sustainability Awards --- 1st Place Middle School - \$300 Cash and Trophy
- * Connecticut Academy of Science and Engineering Middle School Urban School Challenge Award --- Urban School Challenge 1st MS- \$250 Cash Award, Invite to attend CASE's Annual Meeting
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * The Community Foundation for Greater Hew Haven's Milton Fisher Awards for Innovation and Creativity --- For Excellence in Creativity and Innovation by a Middle School student, \$100 cash
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 8th grader - GENIUS Olympiad Competition with stipend (421)
- * Jon Chapitis Memorial Award --- Jon Chapitis Spirit of Innovation Award - MS \$100
- * GENIUS Olympiad --- GENIUS Olympiad Competition for Highest Placing USC 8th grade Project

Windsor Academy of Aerospace and Engineering Michelle Bellinger

4004 Integrating Pelton Turbines Into Industrial Pipes to Harvest Energy

Student(s) **Aaditya Sadhvani** **Grade 8** **Town** Ellington
Roshan Kumar **Grade 8** **Town** Ellington

- * Stanley Black & Decker Applied Technology Awards --- 2nd Place Middle School - \$200 and Plaque, Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * EnergizeCT Future Sustainability Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * Zepke Awards --- \$100 - For the Best Use of Electronic Circuitry- Middle School

Windsor Academy of Aerospace and Engineering Michelle Bellinger

4001 Combining Optical Wireless Communications (OWC) and Neuromorphic Architecture for Large-Scale Computations

Student(s) **Rithvik Suren** **Grade 8** **Town** Ellington
Aarav Chevva **Grade 8** **Town** Ellington

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences MS Team- \$150 each & trophy
- * Infosys Foundation Computer Science Awards --- 1st Place Middle School - \$300, Trophy
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Windsor The Loomis Chaffee School Koby Osei-Mensah

6044 A Deep Semi-Supervised Domain Generalization Approach for Epileptic Seizure Prediction using Electro Encephalo Graphy (EEG)

Student(s) **Sunwoo An** **Grade 9** **Town** Seoul

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences Senior High Individual - \$300 & Plaque
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Pepsico Engineering Awards --- 1st Place- Engineering Senior High- \$500 & plaque,
- * Alexion Biotechnology Awards --- 2nd Place Biotechnology Senior High - \$300 & plaque
- * MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Innovative Concept Award - \$250

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Windsor The Loomis Chaffee School Koby-Mensah Osei

3018 Addressing Data Imbalance in Plant Disease Recognition through Contrastive Learning

Student(s) **Bryan Chung** **Grade 11** **Town** Middlebury

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Windsor The Loomis Chaffee School Koby Osei-Mensah

3051 Influence and implications of different strains and growth media on the chemical properties, water absorption, and morphology of mycelia bio-scaffolds

Student(s) **Eli Krasnoff** **Grade 11** **Town** Mill Valley

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Windsor The Loomis Chaffee School Koby Osei-Mensah

3084 Novel Synthesis and Comprehensive Study of Tough Hydrogel for Bioadhesive Applications

Student(s) **Jessica Luo** **Grade 12** **Town** Newark

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion

Windsor The Loomis Chaffee School Koby Osei-Mensah

6012 Machine Learning Approach for Estimating Razor Kinematic Variables MR and Rsq in Supersymmetric Proton Collision Searches

Student(s) **İdil Türkmen** **Grade 11** **Town** Mersin

* Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

Woodbridge Amity Regional High School Catherine Piscitelli

6010 Creation of an Environment-Adaptive Reaction Algorithm Implemented on a Novel Smart Fluidic Servo Actuator to Provide a Sense of Pseudo-Exproprioception and Exteroception

Student(s) **Aditi Bhattamishra** **Grade 12** **Town** Orange

* Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

* Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

* Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion

* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion

* Wisner Memorial Award --- \$ 1000 cash + Silver Bowl (\$2000 cash if a team) High School

Woodbridge Amity Regional High School Catherine Piscitelli

6091 Determining Printed Circuit Board Surface Finish Effect on Signal Loss at High Frequency (5g/6g) Application

Student(s) **Luke Chang** **Grade 12** **Town** Orange

* Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Woodbridge Amity Regional High School Catherine Piscitelli

3040 Optimizing Bone Regeneration: A Novel Atsttrin-Releasing Injectable Hydrogel for Enhanced Osteogenesis in Critical-Sized Bone Defects

Student(s) **Haseeb Chaudhry** **Grade 12** **Town** Orange

* Life Science Awards with support from Boehringer Ingelheim --- 4th Place- Life Sciences Senior High- Plaque

Woodbridge Amity Regional High School Catherine Piscitelli

6503 Development of a Novel Spray Mechanism Using Real-Time Bee Auditory Data to Trigger an Entomopathogenic Fungal Miticide in Beehives to Control Varroa Destructor Infestations

Student(s) **Sophia Messina** **Grade 11** **Town** Woodbridge

Nikhil Petrov **Grade 11** **Town** Woodbridge

* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 3rd Place HS- \$200, Plaque

* University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Engineering or Technology, Grade 11 only - \$30,000 (\$7,500/year)

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Woodbridge Amity Regional High School Catherine Piscitelli

3133	Determining the Effects of Moisture Content in Artificial Diet on the Survival, Growth, Development, and Pupation of <i>Anoplophora glabripennis</i>
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Student(s) **Sabrina Osowiecki** **Grade** 11 **Town** Orange

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion

Woodbridge Amity Regional High School Catherine Piscitelli

6098	Modeling Interactions Between the Neocortex and the Basal Ganglia During Temporal Sequential Learning Using a Hierarchical Temporal Memory Artificial Neural Network
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Student(s) **Annika Yun** **Grade** 12 **Town** Orange

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Pfizer Computational Biology and Bioinformatics Awards --- 1st Place High School - \$500, Plaque
- * Stanley Black & Decker Applied Technology Awards --- 2nd Place High School - \$300 and Plaque Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention