



Conn. Science & Engineering Fair

Quinnipiac University

March 6 - 18, 2023

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]	Student(s)	Grade	Town
Avon	Talcott Mountain Academy	Hannah Marye	5511	Mitigating the Threat of Microplastics in Drinking Water: The Potential of Coconut Fiber and Activated Coconut Charcoal as Sustainable Filtration Materials	Rhea Doshi	Grade 8	Farmington
<ul style="list-style-type: none"> * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences 8th Grade Ind, - \$100 & trophy * Pepsico Engineering Awards --- 1st Place- Engineering Middle School- \$300 & trophy * Quinnipiac University Scholarships --- \$30,000, 4 year scholarship (\$7,500 per year) to Quinnipiac University for MS Student * 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 * Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100 							
Avon	Talcott Mountain Academy	Doctor Brigette Zacharczenko	2026	What Color Light Is A Cockroach's Favorite?	Yveson Hsiao	Grade 7	Farmington
<ul style="list-style-type: none"> * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences 7th grade- \$100 & trophy 							
Avon	Talcott Mountain Academy	Brigette Zacharczenko	2010	Should You Buy Grow Lights?	Justin Xu	Grade 7	West Hartford
<ul style="list-style-type: none"> * EnergizeCT Future Sustainability Awards --- Middle School Finalist - Medallion 							
Bethel	Bethel High School	Ray Turek	6046	League of Legends Esports AI: Training a Machine Learning Model in a Dynamic Gameplay Environment from Professional Human Experience	Mashnoov Chowdhury	Grade 11	Bethel
<ul style="list-style-type: none"> * M&T Bank Mathematics Awards --- 1st Place High School- \$500 and Plaque * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year) 							
Bethel	Bethel High School	Mr. Turek	3006	Using a C++ Game Engine to Create an Interactive Model of The Interactions Between Ants or Worms With Plants and the Resulting Carbon Footprint	Samantha Schneider	Grade 12	Bethel
<ul style="list-style-type: none"> * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion 							
Bethel	Bethel Middle School	Jason Maxwell	2533	D.E.R.M.A. (Dermatologic Equipment for Rapid Medical Analysis)	Toshan Bhattacharya	Grade 8	Bethel
<ul style="list-style-type: none"> * 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 * National Center for Inquiry Learning --- Daniel & Maggie Award for Imagination - MS \$100 							

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

Bozrah Fields Memorial School Joshua Fish

5505 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

- * Connecticut Science Fair Association Physical Science Awards --- 4th Place- Physical Sciences 8th Grade Ind. - trophy
- * M&T Bank Mathematics Awards --- 1st Place Middle School- \$300 and Trophy
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Association for Women Geoscientists --- Certificate & \$25 gift card given by CSEF
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Junior Award: Certificate, & teeshirt & \$25 Amazon Card from CSEF
- * Society of Women Engineers - Hartford Section --- Scientific Calculator

Bozrah Fields Memorial School Joshua Fish

5512 Does Air Pressure Affect How Far A Soccer Ball Travels In The Air When Kicked?

Student(s) Tyler Savoie **Grade 8** **Town** Gilman

- * M&T Bank Mathematics Awards --- 3rd Place Middle School - \$100 and Trophy
- * U.S. Air Force --- Certificate & USAF Merchandise Package
- * Demos R Us Award --- \$200 Cash Award- Clear Execution of Research- 8th Grade
- * John S. Kendall Memorial --- \$500 John S. Kendall Award for Excellence In Mechanical Engineering - First Place

Bridgeport Black Rock School Tejas Godbole

4003 Solar Powered Charger

Student(s) Nilah DeJesus **Grade 8** **Town** Bridgeport
Karina Conde **Grade 8** **Town** Bridgeport

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Jr Team - CSF Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 3rd Place Middle School - \$100 Cash and Trophy
- * Pepsico Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Constellation Energy --- 1st: \$100.00 Cash - Grade 7 - 8: For Excellence in clean renewable / sustainable energy

Bridgeport Bridgeport Aquaculture Center Kirk Shadle

3124 Utilizing the Nematocysts of Cassiopea xamachana as a Bioactive Antiproliferative Compound

Student(s) Grace Kistner **Grade 12** **Town** Fairfield

- * 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
- * Otero Family Award --- The Otero Family Award; \$250 cash

Bridgeport Bridgeport Aquaculture Center Kirk Shadle

6082 A Novel Multi-Trophic Bio-Filter Apparatus To Remove Point Source, Anthropogenic Eutrophication From Waste Treatment Outflows

Student(s) Tyler Lilya **Grade 12** **Town** Stratford

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

Bridgeport Bridgeport Aquaculture Center Kirk Shadle

3031 Disruption of quorum sensing processes in gram negative bacteria by blocking the AI-2 pathway.

Student(s) John Murray **Grade 12** **Town** southport

- * 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

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

Bridgeport Bridgeport Aquaculture Center Kirk Shadle

6009 Spiral Redirect of Heat Exchange Flow Through a Unique Centrifugal Baffle Coupling

Student(s) **Erika Pinto** **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 --- 5th Place High School - Plaque, Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- * Wisner Memorial Award --- \$ 1000 cash + Silver Bowl (\$2000 cash if a team) High School
- * The Community Foundation for Greater Hew Haven's Milton Fisher Awards for Innovation and Creativity --- For Excellence in Creativity and Innovation by a High School student, \$200 cash
- * Frederick Olender USC Award in Memory of G. Robert Wisner --- \$250 Cash Award for HS student in USC school

Bridgeport Bridgeport Aquaculture Center Kirk Shadle

6052 Using Magnetic Fields to Direct Crystallization of Calcium Carbonate to Emulate the Growth of Trabeculae Post Bone Fracture

Student(s) **Jonah Rosenbaum** **Grade 12** **Town** Fairfield

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

Bridgeport Fairchild Wheeler Aerospace Mr. Koekkoek

6518 Cerebral Palsy Accessible Keyboard

Student(s) **Paul Zint** **Grade 11** **Town** Shelton

Giovanni Gumbs **Grade 11** **Town** West Haven

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

Bridgeport High Horizons Magnet School Daria Collins

4006 Horror of Waves

Student(s) **Kelci Keddo** **Grade 8** **Town** Bridgeport

Benardette Kudaisi **Grade 8** **Town** Bridgeport

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences MS Team- \$150 each & trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge 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

Brookfield Brookfield High School Jonathan Neuhausel

6513 ParkBD: A Novel Multi-Modal Deep Learning Framework for Biomarker Identification and Drug Repurposing in Parkinson's Disease

Student(s) **Shriya Jonnalagadda** **Grade 11** **Town** Brookfield

Diya Girish Kumar **Grade 11** **Town** Brookfield

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences Senior High Team- \$500 (split) & Plaque
- * Infosys Foundation Computer Science Awards --- 2nd Place High School - \$300, Plaque
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

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

Cheshire Cheshire High School Julie Barker

3091 Prioritizing candidate disease genes for de novo variants by integrating phenotype information with protein-protein interaction networks

Student(s) Shangyu Xu **Grade** 12 **Town** Cheshire

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

Cheshire St. Bridget School Michelle Carroll

5506 Improving a Homemade Livestock Identification System for all Farmers

Student(s) Avery Fowler **Grade** 8 **Town** Cheshire

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences 8th Grade Ind. - \$200 & trophy
- * Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- Middle School \$300 / trophy
- * Stanley Black & Decker Applied Technology Awards --- 2nd Place Middle School - \$200 and Plaque, Medallion
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Lemelson Early Inventor Award --- Certificate & \$100 cash award from Lemelson Foundation
- * National Center for Inquiry Learning --- Daniel & Maggie Award for Imagination - MS \$100
- * Robert Francoeur Memorial Awards --- Creative or innovative project in engineering, computer science or mathematics by female students - \$100
- * NYUC Pony Club Equine or Animal Science Award --- \$100 Cash Award or excellence in equine studies

Cheshire St. Bridget School Michelle Carroll

5010 Disaster Resilient Architecture: Experiments of Tower Design and Construction

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

- * Pepsico Engineering Awards --- 3rd Place- Engineering MS \$100 & trophy
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Otis Elevator Company --- MS Excellence Award - \$250
- * Demos R Us Award --- \$150 Cash Award-- Clear Execution of Research- 7th Grade

Clinton The Morgan School Abigail Walston

6058 Producing Electricity with Water

Student(s) Davis Walker **Grade** 11 **Town** Clinton

- * EnergizeCT Alternative & Renewable Energy Awards --- 2nd Place High School - \$300 Cash and Plaque
- * University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Engineering, or Technology, grade 11 only \$28,000 (\$7000/year)

Danbury Saint Gregory the Great School Christine Fahey

5006 Water Works?

Student(s) Shayleigh Barrett **Grade** 7 **Town** New Milford

- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * EnergizeCT Alternative & Renewable Energy Awards --- 2nd Place Middle School - \$200 Cash and Trophy

Danbury Saint Gregory the Great School Mrs. Fahey

2017 Soil Stability-

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

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF

Danbury Saint Gregory the Great School Mrs. Fahey

2516 The effect of fertilizer on hydroponic gardening.

Student(s) Connor McMahon **Grade** 8 **Town** Brookfield

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 8th grade - CSF Medallion

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

Danbury Saint Gregory the Great School Mrs. Fahey

2011 effects of inhaling Peppermint aroma on reaction time

Student(s) Piper Twedt **Grade 7** **Town** Norwalk

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences 7th grade- \$200 & trophy
- * 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

Danbury Westside Middle School Academy Nancy Barlow

4001 Testing the Absorbency of Different Hydrophobic Fibers with Different Oil Samples

Student(s) Jasmine De Sousa **Grade 8** **Town** Danbury

Juliana Watson **Grade 8** **Town** Danbury

Ellie Moore **Grade 8** **Town** Danbury

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences MS Team- \$100 each & trophy
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion

Danbury Westside Middle School Academy Ms. Barlow

4004 What is the Effect of Grass Height on Flammability?

Student(s) Adriana Dickinson **Grade 8** **Town** Danbury

Emma Reda **Grade 8** **Town** Danbury

Hailey Sanchez **Grade 8** **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

Danbury Westside Middle School Academy Nancy Barlow

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

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

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

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences MS Team- \$100 each & trophy
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 7-8 project

Danbury Westside Middle School Academy Ms.Barlow

4013 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

- * M&T Bank Mathematics Awards --- 2nd Place Middle School- \$200 and Trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 2nd Place Middle School - \$200 and Trophy, Medallion
- * Infosys Foundation Computer Science Awards --- 3rd Place Middle School- \$100, Trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 7th grader- Project Oceanology's Ocean Camp - \$875
- * Jon Chapis Memorial Award --- John Chapis Spirit of Innovation Award - MS \$100

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

Danbury Westside Middle School Academy Ms. Barlow

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

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

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 2nd Place MS- \$200, Trophy
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF

Danbury Westside Middle School Academy Nancy Barlow

4010 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

- * 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
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * EnergizeCT Future Sustainability Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * IEEE, Connecticut Section --- \$250 Honors Award – Junior
- * Zepke Awards --- \$100 - For the Best Use of Electronic Circuitry- Middle School
- * Connecticut Invention Convention “Next Step Inventors” --- Next Step Inventor Trophy & Invitation to compete at the 2023 Invention Convention, June 10

Danbury Westside Middle School Academy Nancy Barlow

4007 Fueling a Stirling Engine From a Cold Energy Source (Ice Cubes)

Student(s) Aaliyah Taft **Grade 7** **Town** Danbury

Jessica McDermott **Grade 7** **Town** Danbury

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences MS Team- trophy
- * EnergizeCT Alternative & Renewable Energy Awards --- 1st Place Middle School - \$300 Cash and Trophy

Danbury Westside Middle School Academy Ms. Barlow

1002 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

- * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences MS Team- trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 4th Place Middle School - Trophy, Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 7-8 project

Darien Darien High School David Lewis

3127 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

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * American Psychological Association --- Certificate, \$25 gift card given by CSEF

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

Darien Darien High School David Lewis

3038 Utilization of Decellularized Spinach as a Vascular Perfusion System for Organoid Development

Student(s) **Avery Horn** **Grade 12** **Town** Darien

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- 2nd Place Biotechnology Senior High - \$300 & plaque

Ellington Ellington Middle School Krista Brogle

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

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

- * Connecticut Science Fair Association Physical Science Awards --- 5th Place- Physical Sciences 8th Grade Ind. - trophy
- * Stanley Black & Decker Applied Technology Awards --- 3rd Place Middle School - \$100 and Plaque, Medallion
- * Pepsico Engineering Awards --- 2nd Place- Engineering MS- \$200 & 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
- * Otis Elevator Company --- MS Excellence Award - \$250

Enfield Chiaravalle Academy Tim Coleman

1021 Which plant is more efficient at reducing carbon dioxide from the air, through photosynthesis?

Student(s) **Madeline Agrafojo** **Grade 8** **Town** Suffield
Anna Burnham **Grade 8** **Town** Suffield

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences MS Team- \$150 each & trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Enfield Chiaravalle Academy Mr. Coleman

1001 The Self Sustaining Fish Tank

Student(s) **Noah Bohonowicz** **Grade 7** **Town** Somers
Michael Bielanski **Grade 7** **Town** Enfield
Mason Crkanowicz **Grade 7** **Town** Suffield

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

Enfield Chiaravalle Academy Mr. Coleman

1006 The effect of caffeine on plants

Student(s) **Keenan Cieslak** **Grade 7** **Town** Monson
Shiv Patel **Grade 7** **Town** Longmeadow
Beau Dugas **Grade 7** **Town** Enfield

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

Enfield Chiaravalle Academy Tim Coleman

1016 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

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion
- * EnergizeCT Future Sustainability Awards --- Middle School Finalist - Medallion
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF

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

Fairfield Tomlinson Middle School Ryan Gleason

1012 The effect of water from different sources in fairfield connecticut on the rate of plant growth

Student(s) **Calista Gleason** **Grade 8** **Town** Fairfield
Emma Speicher **Grade 8** **Town** Fairfield

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion

Farmington Farmington High School Guoan Zheng

6031 3D printed, Smart Pipette for pH Sensing

Student(s) **Jiayi Liu** **Grade 10** **Town** Farmington

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

Fishers Island Fishers Island School Michelle Zimmerlin

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

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

* Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
* Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- High School \$500 / plaque
* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 2nd Place HS- \$300, Plaque
* Aquarion Water Company --- 2nd. \$100.00 Cash - Grade 9-12 For Excellence in Water Quality or Environmental Management

Greenwich Brunswick School Dana Montanez

6506 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

* Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
* J.A. Augustine and H. Glista Awards --- \$100 for excellence in physical sciences

Greenwich Brunswick School Dana Montanez

3501 Utilizing eDNA and DNA barcoding to establish a Green Crab Census in the Long Island Sound

Student(s) **Connor Choy** **Grade 11** **Town** Greenwich
Casey Quinson **Grade 11** **Town** Port Chester

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

Greenwich Brunswick School Dana Montanez

3513 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

* Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences Senior High Team- \$300 (split) & Plaque
* Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 3rd Place HS- \$200, Plaque
* Connecticut Academy of Audiology --- \$200 Award - For Excellence in Audiology and Acoustics, oport. to shadow an audiologist

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

Greenwich Brunswick School Dana Montanez

3516 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

- * 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 --- HS Finalist - CSF Medallion
- * NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF

Greenwich Brunswick School Dana Montanez

6059 A Comparative Analysis of the Longevity of Biochar Filters in Removing Agricultural Pollutants from Wastewater.

Student(s) **Luke Dougherty** **Grade 11** **Town** Bronxville

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

Greenwich Brunswick School Mrs. Montanez

6011 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

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences Senior High Individual - \$300 & Plaque
- * Stanley Black & Decker Applied Technology Awards --- 2nd Place High School - \$300 and Plaque Medallion
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Innovative Concept Award - \$250
- * CSEF Board of Directors Award --- Certificate and \$100 given by CSF
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2023 Invention Convention, June 10

Greenwich Brunswick School Dana Montañez

3519 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

- * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place - Life Sciences Senior High Team - Plaque
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF

Greenwich Central Middle School Andrew Bramante

2521 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

- * Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences 8th grade- \$200 & trophy
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * U.S. Metric Association --- 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

[SchTown] [School] [Teacher]
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Greenwich Central Middle School Andrew Bramante

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

Student(s) **Bridget Hadden** **Grade 8** **Town** Greenwich

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences 8th Grade Ind.- \$300 & trophy
- * Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place- Middle School- \$200 / trophy
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- MS Finalist - CSF Medallion
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Physical 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
- * Society of Women Engineers - Hartford Section --- Scientific Calculator

Greenwich Central Middle School Andrew J Bramante

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

Student(s) **Kate Wick** **Grade 8** **Town** Greenwich, CT

- * Alexion Biotechnology Awards --- 5th Place Biotechnology 8th grade- trophy
- * U.S. Metric Association --- Certificate & \$25 gift card given by CSEF
- * Connecticut Science Supervisors Association --- \$125 for a middle school project

Greenwich Eastern Middle School Andrew Bramante

2531 Implementation of Rhizobium Nitrogen-Fixation to Increase Overall Crop Production, and Inhibit

Student(s) **Hannah Dcruz** **Grade 8** **Town** Riverside/Greenwich

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

Greenwich Eastern Middle School Andrew Bramante

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

Student(s) **Rachel Goldenberg** **Grade 8** **Town** Greenwich

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * Bushnell Center for Performing Arts --- Pair of Tickets to Monterey Jazz Festival on tour for top project that is music-related

Greenwich Eastern Middle School Andrew Bramante

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

Student(s) **Sara Rahimtula** **Grade 8** **Town** Old Greenwich

- * EnergizeCT Future Sustainability Awards --- 1st Place Middle School - \$300 Cash and Trophy
- * Freeman Family Excellence in Chemistry Awards --- For Excellence in Chemistry or Chemical Engineering by a Middle School student, \$100 cash

Greenwich Eastern Middle School Andrew Bramante

2511 Simple, Rapid Detection of Early Maturity-Onset Diabetes of the Young (MODY) via Random-C-Peptide Biomarkers

Student(s) **Lula Wang** **Grade 8** **Town** OLD GREENWICH

- * Life Science Awards with support from Boehringer Ingelheim --- 3rd Place- Life Sciences 8th grade- \$100 & trophy
- * Stanley Black & Decker Applied Technology Awards --- 1st Place Middle School - \$300 and Plaque, Medallion
- * 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

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

Greenwich Greenwich Catholic School Mr. Timothy Koppe

1018 Functional Filtration

Student(s) **Grace Brew** **Grade 8** **Town** Greenwich
Leah O'Meara **Grade 8** **Town** Stamford

* EnergizeCT Future Sustainability Awards --- 3rd Place Middle School - \$100 Cash and Trophy

Greenwich Greenwich Country Day School Nathan Haag

3115 Music and the imagination: how compositional techniques used within film scores help shape the imagination

Student(s) **Savanna Shettler** **Grade 12** **Town** Danbury

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

Greenwich Greenwich High School Andrew Bramante

3129 Creation and Simulation of Function of Claramine-Atorvastatin Coated Hyaluronic Acid Nanoparticles for Targeted Dissolution of Atherosclerotic Plaque

Student(s) **Justin Bernstein** **Grade 10** **Town** Greenwich

* Pepsico Engineering Awards --- 2nd Place- Engineering Senior High- \$300 & plaque

Greenwich Greenwich High School Andrew Bramante

6028 Development of an Efficient and Easily-Applicable Low-Energy Process for the Degradation of PFAS

Student(s) **Zara Haque** **Grade 10** **Town** Riverside

* EnergizeCT Future Sustainability Awards --- 1st Place High School - Plaque & \$700 Stipend to Compete at GENIUS Olympiad
* Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
* Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion
* GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Future Sustainability

Greenwich Greenwich High School Andrew Bramante

3079 Footprint Reduction of PET Fiber Waste in Refuse-Environments via Non-Toxic Ideonella Sakaiensis Degradation

Student(s) **Lucy Li** **Grade 11** **Town** Greenwich

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

Greenwich Greenwich High School Andrew Bramante

3099 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

* EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
* National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF
* Project Oceanology --- Individual - 1 Ocean Camp slot + T-Shirt & cap, First Place Senior

Greenwich Greenwich High School Mr. Andrew Bramante

3118 Development of a Rapid Alzheimer's Disease Diagnostic through Multilayered, Comprehensive Statistical Analyses of Speech.

Student(s) **Maximillian Lu** **Grade 11** **Town** Riverside

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

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

Greenwich Greenwich High School Andrew Bramante

3010 Identification of Therapeutics for Neurological Disorders through Development of a Novel Machine Learning System for Predicting Drug-Gene Interactions in the Glymphatic System

Student(s) Ashley Malkin **Grade** 10 **Town** Greenwich

- * Life Science Awards with support from Boehringer Ingelheim --- 5th Place- Life Sciences Senior High- Plaque
- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Alexion Biotechnology Awards --- 3rd Place Biotechnology Senior High - \$200 & plaque

Greenwich Greenwich High School Andrew Bramante

6043 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

- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Amazon Gift Card from the Connecticut Architecture Foundation, William M. Mack, AIA Award.
- * Otis Elevator Company --- HS Excellence Award - \$250

Greenwich Greenwich High School Mr. Andrew Bramante

6008 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

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences Senior High Individual - \$200 & Plaque
- * Stanley Black & Decker Applied Technology Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * Pepsico Engineering Awards --- 1st Place- Engineering Senior High- \$500 & plaque,
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition

Greenwich Greenwich High School Andrew Bramante

3056 In-situ Biodegradation of Landfill Styrofoam Waste by Zophobas Morio via an Innovative, Compounded Diet

Student(s) Colin Reynolds **Grade** 9 **Town** Old Greenwich

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

Greenwich Greenwich High School Andrew Bramante

6016 Synthesis and Investigation of Metal Organic Frameworks for the Purpose of Atmospheric Water Harvesting

Student(s) Caitlin Tice **Grade** 10 **Town** Greenwich

- * Stanley Black & Decker Applied Technology Awards --- 1st Place High School - \$500 and Plaque, Medallion
- * GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project

Greenwich Greenwich High School Andrew Bramante

6022 Use of Cryptomelane-Type Manganese Oxide Free Standing Membranes for Removal of Oil Contaminants in Water.

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

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * U.S. Air Force --- Certificate & USAF Merchandise Package

Greenwich Sacred Heart Greenwich Mary Musolino

6026 Using Graphene to Create a Starch-Based 3D Printed Bioplastic that is Thermally and Electrically Conductive

Student(s) Olivia Ritossa **Grade** 11 **Town** Pelham

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

[SchTown]	[School]	[Teacher]	[Proj#]	[Project Title]	Student(s)	Grade	Town
Greenwich	Western Middle School	Andrew Bramante	2514	Use of Simple, Home-Remedy Cleansers to Selectively Inhibit Harmful Bacteria on Classroom Surfaces	Amaya Khwaja-Patel	Grade 8	Town Greenwich
<ul style="list-style-type: none"> * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 7-8 project 							
Guilford	Guilford High School	Kristie Whitcomb	3066	Sounds of Change: Music Therapy's Effect on Apathy in Parkinson's Disease Patients	Zachary Neiss	Grade 12	Town Guilford
<ul style="list-style-type: none"> * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion * Bushnell Center for Performing Arts --- Pair of Tickets to Broadway Show - Tina Turner Musical for top project that is behavioral or social sciences related 							
Guilford	Guilford High School	Yanjiao Zhou	3088	The impact of gut microbiome on COVID-19 vaccination	Catherine ZHOU	Grade 10	Town GUILFORD
<ul style="list-style-type: none"> * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion 							
Hamden	Hamden Hall Country Day School	Paulomi Aldo	2019	Do human and dog saliva have special antibacterial properties and help heal wounds?	Anna Aslan	Grade 7	Town Hamden
<ul style="list-style-type: none"> * 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 							
Hamden	Hamden Hall Country Day School	Dr. Patrick Fitzgerald	3097	The Water Cycle and Environmental Bacteria Resistance to Antiseptics	Theodora Aslan	Grade 10	Town HAMDEN
<ul style="list-style-type: none"> * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion 							
Hamden	Hamden Hall Country Day School	Frank Gasparro	6005	Photometry and DNA-psoralen Photochemistry with a Novel LED Source	Andrei Balas	Grade 9	Town Cheshire
<ul style="list-style-type: none"> * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion 							
Hamden	Hamden Hall Country Day School	Chris Buckley	6507	Using Surveys to Study the Evolution of Art Generated by Artificial Intelligence	Helena Chaine Eric Huang	Grade 10 Grade 10	Town Orange Town Guilford
<ul style="list-style-type: none"> * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion 							
Hamden	Hamden Hall Country Day School	Dr. Patrick Fitzgerald	3029	Exfoliated graphite absorption of oil-based contaminants in water	Ravindu Karunaratne	Grade 9	Town Hamden
<ul style="list-style-type: none"> * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion 							
Hamden	Hamden Hall Country Day School	Chris Buckley	3080	MiMe- Mindly Meditation	Neev Makin	Grade 9	Town Hamden
<ul style="list-style-type: none"> * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion 							

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

Hamden Hamden Hall Country Day School Gina DAngelo

3058 Impact of Chitosan Polysaccharide (From Chitin) on Intestinal Health

Student(s) **Sophia Vash** **Grade 9** **Town** Fairfield CT

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

Hamden Hamden Hall Country Day School Frank Gasparro

3515 A model system for the effect of ash produced by wildfire on glacier melting

Student(s) **Huiwen Zeng** **Grade 11** **Town** Cheshire

Jiahui Chen **Grade 10** **Town** New Haven

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

Hartford A.I. Prince Technical High School Sarah Wilby

6006 Thermacork Shelters

Student(s) **Meranyelis Negron-Figueroa** **Grade 11** **Town** Hartford

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

* University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Engineering, or Technology, grade 11 only \$28,000 (\$7,000/year)

Hartford A.I. Prince Technical High School Sarah Wilby

6511 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

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

* Constellation Energy --- 1st: \$150.00 Cash - Grade 9 - 12: For Excellence in clean renewable / sustainable energy

Hartford Environmental Sciences Magnet School Rebecca Hays

2506 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

* Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- Middle Schools- \$100 / trophy

* The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 5th Place Middle School - Trophy, Medallion

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

* Southeastern New England Marine Educators (SENEME) --- \$100 award and membership for student and teacher in SENEME - 1st Place Junior

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

Kent Kent School Jesse Klingebiel

3045 Cell type-specific expression of the molecular players in mouse prefrontal cortex during cocaine addiction

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

* Life Science Awards with support from Boehringer Ingelheim --- 2nd Place- Life Sciences Senior High- \$300 & Plaque

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

Lakeville The Hotchkiss School Richard Kirby

6049 Assisting Carbon Neutralization: Automated Energy-saving Controller for Household Appliances

Student(s) **Da Zhuo (Alejandro) Zheng Zhou** **Grade 11** **Town** Lakeville

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

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

Litchfield Wamogo Regional High School Fred Jaquin

6041 Measuring Our Place in the Solar System:

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

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * M&T Bank Mathematics Awards --- 2nd Place High School- \$300 and Plaque
- * 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

Manchester Manchester High School Jeffrey Labasi

3019 The Isolation And Identification Of Polystrene Degrading Bacteria From Zophobas Morio

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

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- 4th Place Biotechnology Senior High - plaque
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition

Manchester Manchester High School Wendy Turek-Hernandez

3013 Spectrophotometric Determination of the Total Polysaccharide Content of Ganoderma Lucidum Grown Under Different Conditions.

Student(s) **Sylvia Squatrito** **Grade 12** **Town** Manchester

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

Manchester St. James School Ellen Oei

1013 Amazing Ants.

Student(s) **Noah Gendreau** **Grade 7** **Town** Lebanon

Dylan Ghezzi **Grade 7** **Town** Manchester

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

Manchester St. James School Ellen Oei

5005 Which Rock is more Porous?

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

- * Connecticut Science Fair Association Physical Science Awards --- 2nd Place- Physical Sciences 7th Grade Ind. - \$200 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * Geology/Historic Project of Merit Award --- \$50 - Earth Science - Field work with Geologic or historic value MS

Meriden H.C. Wilcox Technical High School Charles Rolle

6510 Energy Efficient Apartment

Student(s) **David Hardy** **Grade 10** **Town** Wallingford

Connor Wright **Grade 10** **Town** Meriden

Ethan McMahon **Grade 10** **Town** Southington

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

Milford Harborside Middle School Independent

2004 Finding the most effective solutions to kill germs and bacteria on door knobs using natural substances (lemon juice, cold/hot/room temperature tap water, saltwater).

Student(s) **Sahithi Alla** **Grade 7** **Town** Milford

- * Alexion Biotechnology Awards --- 5th Place Biotechnology 7th grade - trophy

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

Milford Platt Technical High School Sara Bruno

3508 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

- * EnergizeCT Technical High School Science & Technology Awards --- 1st Place- Technical High School, Plaque & Stipend to Compete at GENIUS Olympiad
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Amazon Gift Card from the Connecticut Architecture Foundation, William M. Mack, AIA Award.
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place Technical High School

New Haven Engineering and Science University Magnet School Alyssa Anderson

3503 The Effect of a Calcium Chloride Solution on the Coagulation of Sodium Alginate for the Implementation in Cultures of Cyanobacteria

Student(s) **Temiladeoluwa Adeniran** **Grade** 10 **Town** Seymour
Mari Arnold **Grade** 10 **Town** Stratford

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

New Haven Engineering and Science University Magnet School Roger Rushworth

2509 Investigating The Effectiveness Of Biochar In Remediating Soil Contamination by Heavy Metals and Hydrocarbons.

Student(s) **Sahithi Aliminate** **Grade** 8 **Town** Milford

- * Life Science Awards with support from Boehringer Ingelheim --- 5th Place- Life Sciences 8th grade- trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 3rd Place Middle School - \$100 and Trophy, Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 3rd Place MS- \$100, Trophy
- * Alexion Biotechnology Awards --- 4th Place Biotechnology 8th grade- trophy

New Haven Engineering and Science University Magnet School Roger Rushworth

6079 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

- * 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
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Senior Award: Certificate, & teshirt & \$25 Amazon Card from CSEF

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

New Haven Engineering and Science University Magnet School Roger Rushworth

2534 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

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences 8th grade - CSF Medallion
- * Pfizer Computational Biology and Bioinformatics Awards --- 1st Place Middle School - \$300, Trophy
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 1st Place Middle School - \$300 and Trophy, Medallion
- * Infosys Foundation Computer Science Awards --- 1st Place Middle School - \$300, 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
- * Alexion Biotechnology Awards --- 2nd Place Biotechnology 8th grade - \$200 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners
- * The Community Foundation for Greater New 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)
- * GENIUS Olympiad --- GENIUS Olympiad Competition for Highest Placing USC 8th grade Project
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2023 Invention Convention, June 10

New Haven Engineering and Science University Magnet School Ms. Alyssa Anderson

3016 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

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 4th Place High School - Plaque, Medallion
- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- HS Finalist - CSF Medallion
- * Aquarion Water Company --- 1st, \$150.00 Cash - Grade 9-12 For Excellence in Water Quality or Environmental Management
- * The Community Foundation for Greater New Haven Ecology, Environmental, and Alternative Energy Research Prize --- Urban Public School Environmental / Energy Award - \$500

New Haven Engineering and Science University Magnet School Roger Rushworth

2502 The Effect of Ocean Acidification on Coral Reef Growth

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

- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF
- * Project Oceanology --- Individual - 1 Ocean Camp slot + T-Shirt & cap, First Place Junior

New Haven Sound School Charles Mulligan

3520 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

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High Team - CSF Medallion
- * National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF

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

New Haven Sound School Chuck Mulligan

3511 Potential Impact of Heavy Rain Events on Coastal Bacterial Populations: Modeling Human Impact in Close Proximity to Wastewater Treatment Facilities

Student(s) **Cora FitzGerald** **Grade 10** **Town** Guilford
Britney Xochipitecatl Cuahtepitzi **Grade 10** **Town** New Haven

* EnergizeCT Future Sustainability Awards --- 2nd Place High School - \$300 Cash and Plaque
* GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project

Newtown Newtown High School Timothy DeJulio

3101 The Effect of Placebos and Nocebos on Pain Perception

Student(s) **Anna White** **Grade 12** **Town** Sandy Hook

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

Norwich Norwich Technical High School Kaminski/Pelloni

3527 Sustainably Providing Vegetables in Accordance to Overpopulation

Student(s) **Emerson Alexy** **Grade 11** **Town** Old Saybrook
Kelvin Lam **Grade 11** **Town** Norwich

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

Norwich Norwich Technical High School Tiffani Kaminski

3506 Using Zeolite Clinopitilite to Reduce Methane Emissions From Food Waste

Student(s) **Morgan Cook** **Grade 11** **Town** Higganum
Sydney Brown **Grade 11** **Town** Uncasville

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

Norwich Norwich Technical High School Mrs. Kaminiski

3523 Environmental Friendly Methods for Deicing Roads

Student(s) **Keyonna Hayes** **Grade 11** **Town** Uncasville
Aliyah Mayo **Grade 11** **Town** Lisbon

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

Norwich Norwich Technical High School Tiffani Kaminski

3514 How Agricultural Runoff Affects The Oceans Biodiversity

Student(s) **Beverly Valle** **Grade 11** **Town** Montville
Grace Fuchs **Grade 11** **Town** Montville

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

Pawcatuck St. Michael School Mrs Grossomanides

5003 Four Fab Fats

Student(s) **Connor Anderson** **Grade 7** **Town** Pawcatuck

* Connecticut Science Fair Association Physical Science Awards --- 3rd Place- Physical Sciences 7th Grade Ind. - \$100 & trophy

Pawcatuck St. Michael School Anna Helene Grossomanides

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

Student(s) **Addison Cadmus** **Grade 7** **Town** Pawcatuck

* Alexion Biotechnology Awards --- 2nd Place Biotechnology 7th grade - \$200 & trophy
* Alumni Botany Awards --- Alumni Middle School Botany Award- \$100 Cash

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

Pomfret Pomfret School Joshua Lake

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

Student(s) Yuree Oh **Grade** 11 **Town** Seoul

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Infosys Foundation Computer Science Awards --- 1st Place High School - \$500, Plaque
- * National Geographic That's Geography! - Cultivating Empathy for the Earth Award --- Certificate & \$100 Cash from Society for Science

Redding CT STEM Fair Catherine Piscitelli

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

Student(s) Sabrina Osowiecki **Grade** 10 **Town** Redding

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Banning Family Life Science Award --- For excellence in invasive species research, \$100 cash

Ridgefield Ridgefield High School Patrick Hughes

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

Student(s) Heather Wallace **Grade** 12 **Town** Ridgefield

- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * Geology/Historic Project of Merit Award --- \$50 - Earth Science - Field work with Geologic or historic value HS

Shelton Shelton Intermediate School Erica Napoli

2015 The Eggstastic Egg Experiment

Student(s) Mallory Bohrer **Grade** 7 **Town** Shelton

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

Shelton Shelton Intermediate School Dr. Erica Napoli

2003 The Fingerprint Powder Experiment

Student(s) Gabriella Kuniej **Grade** 7 **Town** Shelton

- * Life Science Awards with support from Boehringer Ingelheim --- 4th Place- Life Sciences 7th grade- trophy

South Windsor South Windsor High School Patti Stamper

6519 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

- * Connecticut Science Fair Association Physical Science Awards --- 3rd Place - Physical Sciences Senior High Team - Plaque
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, high school, \$100 cash award
- * Frank J. Link Family Award for Energy Related Research --- Frank J. Link Award for Energy Related Research - \$50

South Windsor South Windsor High School Independent

6088 Predicting Solar Storms and Coronal Mass Ejections (CMEs) using novel Attention based Deep Learning algorithms

Student(s) Pragyan Yadav **Grade** 11 **Town** South Windsor

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year)

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

Stamford King School Victoria Schulman

6036 Environmental Remediation via Photocatalysis for Partial Methane Oxidation and Oil Photodegradation

Student(s) Antonia Kolb **Grade** 11 **Town** New Canaan

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Freeman Family Excellence in Chemistry Awards --- For Excellence in Chemistry or Chemical Engineering by a High School student, \$200 cash

Stamford King School Victoria Schulman

6021 The use of NMR to identify the LOD in mixtures of organic compounds to efficiently produce environmentally friendly biomass polymers & reduce energy loss from wasted plastic

Student(s) Gouri Krishnan **Grade** 12 **Town** Darien

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

Stamford King School Victoria Schulman

3075 High G/C Content at the 3' End of the Spacer of Prime Editing Guide RNAs Results in Increased Editing Efficiencies

Student(s) Benjamin Persily **Grade** 12 **Town** Scarsdale

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

Stamford King School Victoria Schulman

3048 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

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences Senior High- \$500 & Plaque
- * 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 --- 5th Place Biotechnology Senior High - plaque
- * Regeneron Biomedical Science Award --- Certificate & \$375.00 cash
- * Biophysical Society --- Biophysics Award- \$100

Stamford Westhill High School Mr Chandan Sarkar

6066 Investigating the application of statistical word analysis to automatically select controls from the NIST Risk Management Framework

Student(s) Rohan Sahu **Grade** 11 **Town** Stamford

- * Connecticut Science Fair Association Physical Science Awards --- 5th Place- Physical Sciences Senior High Individual - Plaque
- * The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion

Stamford Bi-Cultural Hebrew Academy Chris Graseck

1007 How Microplastics Effect Daphnia magna

Student(s) Zoe Wirgin **Grade** 7 **Town** Stamford

Molly Wirgin **Grade** 7 **Town** Stamford

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

Storrs E. O. Smith High School Cheryl Granger

6040 Multi Temporal Analysis of Beaver Activity in Connecticut Forests Using Aerial Imagery

Student(s) Hiruni Witharana **Grade** 9 **Town** Storrs Mansfield

- * Environmental Sciences Awards with Connecticut Association of Conservation and Inland Wetlands Commissions --- 1st Place HS - Plaque and \$700 Stipend to Compete at GENIUS Olympiad
- * The Goodwin-Niering Center for the Environment --- \$100 for "Excellence in Environmental Conservation Studies"
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Environmental Project

[SchTown] [School] [Teacher]
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Stratford St. Mark School Alexander Kennedy

2006 The Stroop Effect

Student(s) **Julianne Gonzalez** **Grade 7** **Town** Stratford

- * Life Science Awards with support from Boehringer Ingelheim --- 1st Place- Life Sciences 7th grade- \$300 & trophy
- * American Psychological Association --- 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

Stratford St. Mark School Mr. Kennedy

1010 How Different Liquids Affect the Growth of Plants

Student(s) **Sofia Pagano** **Grade 7** **Town** Stratford

Sara Gnoza **Grade 7** **Town** Stratford

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

Suffield Suffield Academy Raven Huang

6068 Research on the Equation of the Magnetic Field Caused by Magnets

Student(s) **Jiaxuan Su** **Grade 11** **Town** Suffield

- * M&T Bank Mathematics Awards --- 3rd Place High School - \$200 and Plaque

Suffield Suffield Middle School Melanie Brown

4012 Technical and Economic Feasibility of Photovoltaic Window Shades

Student(s) **Shaunak Ukidwe** **Grade 8** **Town** Suffield

Arnav Ukidwe **Grade 8** **Town** Suffield

- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Constellation Energy --- 2nd: \$50.00 Cash - Grade 7 - 8: For Excellence in clean renewable / sustainable energy
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, middle school, \$100 cash award
- * Frank J. Link Family Award for Energy Related Research --- Frank J. Link Award for Energy Related Research - \$50
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2023 Invention Convention, June 10

Trumbull Christian Heritage School Dr. Daniel Cote

6080 Designing a Device to Charge a Cellphone Using Energy Created by a Bicycle for Underdeveloped Areas

Student(s) **Abigail Nagel** **Grade 11** **Town** Trumbull

- * EnergizeCT Alternative & Renewable Energy Awards --- 1st Place High School - \$500 Cash and Plaque
- * EnergizeCT Future Sustainability Awards --- High School Finalist - Medallion
- * J.A. Augustine and H. Glista Awards --- \$100 H. Glista Award for physical sciences

Trumbull Christian Heritage School Nicole Blaskewicz

5502 How Ice vs. No Ice Affects a Stirling Engine

Student(s) **Charles Orban** **Grade 8** **Town** Norwalk

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences 8th Grade - CSF Medallion
- * Pepsico Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * John S. Kendall Memorial --- \$300 John S. Kendall Award for Excellence In Mechanical Engineering - Second Place
- * Susan and Stanley Lessoff Memorial --- Susan and StanleyLessoff Memorial Award - \$250 Cash and Plaque MS

Wallingford Choate Rosemary Hall John Gadoua

6030 Effect of Atmospheric conditions on the Power output of Solar Panel

Student(s) **Seokhyun Chin** **Grade 10** **Town** Wallingford

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

[SchTown] [School] [Teacher]
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Wallingford Choate Rosemary Hall Joseph Scanio

3046 Effect of microbiota inoculants on novel bioplastic degradation: a comparative study on backyard and commercially compostable bioplastics

Student(s) Rebecca Denhart **Grade** 12 **Town** Durham

* Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- High School- \$200 / plaque

Wallingford Choate Rosemary Hall Jan Cook

6076 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

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

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

Wallingford Choate Rosemary Hall Jan Cook

3007 Development of Buoyant, Lignin-Based Fulvic Acid Supply Device (FASD) to Prevent Ocean Desertification

Student(s) Yoon Ha Lee **Grade** 11 **Town** Seoul

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

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

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

Wallingford Choate Rosemary Hall Yingxin Gao

3072 Using Machine Learning to Forecast Progression from Mild Cognitive Impairment to Alzheimer's Disease

Student(s) Ann Song **Grade** 10 **Town** Farmington

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

Wallingford Choate Rosemary Hall Jan Cook

3040 TopoCan: A Novel Histopathological System for Clinical Prediction with Topology- and Spatial Genome-Informed Deep Learning

Student(s) Isabella Wu **Grade** 11 **Town** Wallingford

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

* Pfizer Computational Biology and Bioinformatics Awards --- 3rd Place High School - \$200, Plaque

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

Wallingford Choate Rosemary Hall Jan Cook

6064 A Self-Stabilizing Haptic Accessibility Mouse for Parkinson's Disease Sufferers

Student(s) Jingyuan Zhang **Grade** 10 **Town** Wallingford

* Connecticut Science Fair Association Physical Science Awards --- 1st Place - Physical Sciences Senior High Individual - \$500 & Plaque

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

* Quinnipiac University Scholarships --- \$30,000, 4 year scholarship (\$7,500 per year) to Quinnipiac University for HS Student

* 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

* Alexion Biotechnology Awards --- 1st Place Biotechnology Senior High - \$500 & plaque

* MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Applied Principles Award - \$250

* IEEE, Connecticut Section --- \$250 Honors Award – Senior

* Zepke Awards --- \$125 - For the Best Use of Electronic Circuitry- Senior High

[SchTown] [School] [Teacher]
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Wallingford Choate Rosemary Hall Christopher Hogue

6069 Probing Neural Networks for Visio-Linguistic Feature Binding

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

- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * Maplesoft Awards for Applied Mathematics and Modeling --- Maple software, gift packs, & T-shirt - For Excellence in Mathematics

Washington The Frederick Gunn School Morgen Fisher

6084 Water Quality Inspection Catamaran

Student(s) **Chengyue Zhang** **Grade 11** **Town** Shanghai

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

Waterbury ACES at Chase Anne Pember

2013 Removing Sodium Nitrate from run off water

Student(s) **Joel Brooks** **Grade 7** **Town** Naugatuck

- * EnergizeCT Future Sustainability Awards --- Middle School Finalist - Medallion
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF

Waterbury ACES at Chase Anne Pember

5001 Streaky Windows Experiment

Student(s) **Andrew Daukas** **Grade 7** **Town** Middlebury

- * Connecticut Science Fair Association Physical Science Awards --- 1st Place- Physical Sciences 7th Grade Ind. - \$300 & trophy
- * Thermo Fisher Scientific Junior Innovators Challenge --- Nomination to compete in the Thermo Fisher Scientific JIC for selected top MS winners

Waterbury ACES at Chase Lisa Debany

1020 Strontium Alumminate Begonia

Student(s) **Isaiah Smith** **Grade 8** **Town** Meriden
Sharon Olabisi **Grade 8** **Town** Meriden
Nevaeh Alfonso **Grade 8** **Town** Prospect

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Sciences Middle School Team - CSF Medallion

West Hartford Renbrook School Howard Wright

2024 Is Your Bottled Water Really Worth It?

Student(s) **Nicolas Waldron** **Grade 7** **Town** West Hartford

- * Life Science Awards with support from Boehringer Ingelheim --- 5rd Place- Life Sciences 7th grade- trophy

Westbrook Westbrook High School Mr. Zebrowski

6047 Linear Particle Accelerator

Student(s) **Enzo Adorno** **Grade 12** **Town** Westbrook

- * Pepsico Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Physical Sciences - Co-Op \$100 Gift Certificate

Wilton Middlebrook School Kendra Norman

5002 BlindSight

Student(s) **Arav Gupta** **Grade 7** **Town** Wilton

- * Stanley Black & Decker Applied Technology 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
- * IEEE, Connecticut Section --- \$100 Honorable Mention

[SchTown] [School] [Teacher]
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Wilton Middlebrook School Debbie Mallozzi

5514 Classifying Lenticular Galaxies with the help of a Convolutional Neural Network

Student(s) **Ishanvi Jaiswal** **Grade 8** **Town** Wilton

* Infosys Foundation Computer Science Awards --- 2nd Place Middle School - \$200, Trophy

Wilton Middlebrook School Paige Randall

2020 The Power of Your Produce!

Student(s) **Nadia Khan** **Grade 7** **Town** Wilton

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

* Alexion Biotechnology Awards --- 3rd Place Biotechnology 7th grade - \$100 & trophy

Wilton Middlebrook School Kelly DePiano

2525 Preventing Hypoxia using Magnetism

Student(s) **Anshika Saagi** **Grade 8** **Town** Wilton

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

* Alexion Biotechnology Awards --- 3rd Place Biotechnology 8th grade - \$100 & trophy

* Aquarion Water Company --- 2nd. \$50.00 Cash - Grade 7-8 For Excellence in Water Quality or Environmental Management

Wilton Middlebrook School Ms. Kelly Depiano

5516 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

* 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

Windsor Academy of Aerospace and Engineering Michelle Bellinger

3024 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

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

* Pfizer Computational Biology and Bioinformatics Awards --- 1st Place High School - \$500, Plaque

* The Jackson Laboratory with Connecticut Academy of Science and Engineering Urban School Challenge Awards --- 1st Place High School - \$500 and Plaque, Medallion

* H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering --- Urban School Challenge Senior Division, 1st - \$1,000, Award of Excellence, Invite to CASE Annual Mtg

* University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Science or Mathematics, grade 11 only \$28,000 (\$7,000/year)

* Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100

Windsor Academy of Aerospace and Engineering Michelle Bellinger

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

Student(s) **Ronak Ramesh** **Grade 11** **Town** Middletown

Aarush Singh **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 --- 3rd Place High School - \$200 Cash and Plaque

* Constellation Energy --- 2nd: \$100.00 Cash - Grade 9 - 12: For Excellence in clean renewable / sustainable energy

* Connecticut Association of Physics Teachers --- \$100 Senior project

* Jon Chapis Memorial Award --- John Chapis Spirit of Innovation Award - HS \$200

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Windsor Madina Academy Mrs.Sana Farooqi

6063 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

- * Connecticut Science Fair Association Physical Science Awards --- 4th Place- Physical Sciences Senior High Individual - Plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place High School \$300 / plaque
- * U.S. Air Force --- Certificate & USAF Merchandise Package
- * American Institute of Aeronautics & Astronautics - Connecticut Section --- \$200 award, certificate
- * Vanderbilt Chemicals, LLC --- \$150 Vanderbilt Chemicals Award for Excellence in Tribology and Sustainable Lubrication
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Frontiers in Science - Co-Op \$100 Gift Certificate
- * Arthur & Ruth Mensing Award --- Mensing Award Excellence in the High School Physical Sciences - \$500

Windsor The Loomis Chaffee School Koby Osei-Mensah

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

Student(s) **Yan Che** **Grade** 11 **Town** Shanghai

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Susan and Stanley Lessoff Memorial --- Susan and Stanley Lessoff Memorial Award - \$250 Cash and Plaque HS

Windsor The Loomis Chaffee School Koby Osei-Mensah

3002 Classify Liver cancer using Uncertainty-aware CNN

Student(s) **Qiwu Jiang** **Grade** 11 **Town** Windsor

- * Life Science Awards with support from Boehringer Ingelheim --- Finalist - Life Science Senior High - CSF Medallion
- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion
- * University of Hartford Scholarships --- University of Hartford Scholarship - For Excellence in Science or Mathematics, grade 11 only \$28,000 (\$7,000/year)

Woodbridge Amity Regional High School Catherine Piscitelli

6085 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

- * Connecticut Science Fair Association Physical Science Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Yale Science & Engineering Association, Inc. --- 1 Certificate, Medallion and 1- \$25 gift card given by CSEF
- * IEEE, Connecticut Section --- \$100 Honorable Mention

Woodbridge Amity Regional High School Catherine Piscitelli

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

Student(s) **Francis Cavallaro** **Grade** 12 **Town** Orange

- * Infosys Foundation Computer Science Awards --- Senior High Finalist - Medallion
- * U.S. Air Force --- Certificate & USAF Merchandise Package
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Otis Elevator Company --- HS Excellence Award - \$250.

Woodbridge Amity Regional High School Catherine Piscitelli

6077 Developing a Machine-Learning Based Algorithm to Identify and Predict Alzheimer's Disease from Clinical Notes

Student(s) **Haseeb Chaudhry** **Grade** 11 **Town** Orange

- * Pfizer Computational Biology and Bioinformatics Awards --- 2nd Place High School - \$300, Plaque
- * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year)

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

Woodbridge Amity Regional High School Catherine Piscitelli

3100 Developing a machine learning model to preoperatively evaluate patient outcomes for complex orthopedic fractures

Student(s) **Suhail Irshad** **Grade 11** **Town** Orange

- * M&T Bank Mathematics Awards --- High School Finalist - Medallion
- * Infosys Foundation Computer Science Awards --- 3rd Place High School- \$200, Plaque

Woodbridge Amity Regional High School Catherine Piscitelli

3074 In Vivo Imaging of Structural Connectivity and Synaptic Density in Alzheimer's Disease

Student(s) **Melinda Lu** **Grade 12** **Town** Woodbridge

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

Woodbridge Amity Regional High School Catherine Piscitelli

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

Student(s) **Sheehan Munim** **Grade 12** **Town** Orange

- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * American Psychological Association --- Certificate, \$25 gift card given by CSEF

Woodbridge Amity Regional High School Catherine Piscitelli

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

Student(s) **Aarav Patel** **Grade 11** **Town** Orange

- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$96,000 (\$24,000 per year)
- * Maplesoft Awards for Applied Mathematics and Modeling --- Maple software, , gift packs, & T-shirt - For Excellence in Mathematics

Woodbridge Amity Regional High School Catherine Piscitelli

6025 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

- * Pfizer Computational Biology and Bioinformatics Awards --- Senior High Finalist - Medallion
- * Wisner Chairman's Award --- \$500 cash & Plaque HS

Woodbridge Amity Regional High School Catherine Piscitelli

3069 Determining the Impact of Certain DNA Repair Function Loss on the Antibiotic Resistance and Persistence Development of E.coli Following Treatment With DNA Topoisomerase Inhibitors

Student(s) **Annie Zhan** **Grade 12** **Town** Bethany

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