



Conn. Science & Engineering Fair

Quinnipiac University

March 9 - 14, 2020

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 Mr John Pellino

5007 Dampening, Quantifying, and Recording Tremor

Student(s) Ariana Pourkavoos **Grade 7** **Town** Avon

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences 7th Grade Ind. - \$200 & trophy, invite to compete Broadcom MASTERS
- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- Middle Schools- \$100 / trophy
- * Alexion Biotechnology Awards --- 2nd Place- Biotechnology 7th grade- \$200 & trophy and Invitation Compete in Broadcom MASTERS
- * Milton Fisher Science Fair Award for Innovation and Creativity --- For Excellence in Creativity and Innovation by a Middle School student, \$100 cash
- * Meyerand Young Woman Scientist Awards --- \$300 cash - Middle School, Physical Sciences
- * John S. Kendall Memorial Awards --- \$300 John S. Kendall Award for Excellence In Mechanical Engineering - Middle School

Avon Talcott Mountain Academy Priya Rajagopal

5508 The Pathfinder: a mobile navigation system to enable people to safely and quickly evacuate large complex buildings.

Student(s) Jasper Southam **Grade 8** **Town** Shelton

- * Applied Technology Awards --- 1st Place Middle School - \$300 and Trophy, Medallion
- * Computer Science Awards --- 1st Place Middle School - \$300, Trophy

Bethany Amity Middle School - Bethany Kevin Berean

4037 Utilizing Nanotechnology to Clean Up Oil Spills

Student(s) Adam Liu **Grade 8** **Town** Woodbridge

Alesandro Gopal **Grade 8** **Town** Woodbridge

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences MS Team- trophy, invite to compete Broadcom MASTERS
- * Future Sustainability Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion

Bethany Amity Middle School - Bethany Kevin Berean

5510 A More Efficient Microbial Fuel Cell

Student(s) Iris Yan **Grade 8** **Town** Woodbridge

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences 8th Grade Ind, - \$100 & trophy, invite to compete Broadcom MASTERS
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, middle school, \$75 cash award
- * Frank J. Link Family Award for Energy Related Research --- Frank J. Link Award for Energy Related Research - \$50

Bethel Bethel Middle School Noelle Chiafari

5530 Sustainability in Skincare: A comparison between store-bought products and homemade (DIY) products: What's more cost efficient, time efficient, and has superior quality?

Student(s) Simar Soni **Grade 8** **Town** Bethel

- * Mathematics Awards - with ATOMIC --- Middle School Finalist - Medallion

Bethel Bethel Middle School Shellie Zancan

5025 Biodegradable Trash Bag Test

Student(s) Emily Turek **Grade 7** **Town** Bethel

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion
- * Air and Waste Management Association, Connecticut Chapter --- \$100 Junior, Environmental Research, waste recycling related

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

Bozrah Fields Memorial School Mrs. E. Brown

5513 Producing Renewable Energy With Rainwater Gutter Systems Using Micro Hydro-Turbines

Student(s) Elle Okoney **Grade 8** **Town** BOZRAH

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences 8th Grade Ind. - trophy and Invitation Compete in Broadcom MASTERS
- * Applied Technology Awards --- 2nd Place Middle School - \$200 and Trophy, Medallion
- * Alternative/Renewable Energy Awards --- 3rd Place Middle School - \$100 Cash and Trophy
- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering MS- \$200 & trophy and Invitation Compete in Broadcom MASTERS
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Gift Certificate to Barnes and Noble from the Connecticut Architecture Foundation, William M. Mack, AIA Award.
- * IEEE, Connecticut Section --- \$250 Honors Award -Junior
- * J.A. Augustine Award --- \$100 for excellence in physical sciences
- * Kathleen & David Smith Awards --- Kathleen & David Smith Award for Innovative Concept - \$100
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Bozrah Fields Memorial School Mrs. E. Brown

5521 The Power of a Wind Turbine

Student(s) Felicia Silva **Grade 8** **Town** Bozrah

- * Mathematics Awards - with ATOMIC --- 1st Place Middle School- \$150 from ATOMIC, and Trophy, \$300 from People's United Bank
- * Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place- Middle School- \$200 / trophy
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * U.S. Metric Association --- Certificate & \$25 gift card given by CSEF
- * Robert Francoeur Memorial Award --- Creative or innovative project in engineering or computer science by female students - \$200

Branford CT Experiential Learning Center Middle School Melinda Alcosser

5005 Let Them Eat Cake!

Student(s) Harper Reed **Grade 7** **Town** Guilford

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion
- * Talcott Mountain Science Center & Academy --- Founder's Award - \$450 Saturday Mentorship Course at TMSC - Middle School Life Science

Branford CT Experiential Learning Center Middle School Melinda Alcosser

5537 From Waste to Paper

Student(s) Ethan Reynolds **Grade 8** **Town** Durham

- * Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences 8th Grade Ind. - trophy
- * Demos R Us Award --- \$200 Cash Award- Clear Execution of Research- 8th Grade

Branford CT Experiential Learning Center Middle School Melinda Alcosser

4012 Plastic vs. Plastic - Durability and Decomposition

Student(s) Julian Scharf **Grade 8** **Town** Guilford
Emma Higgins **Grade 7** **Town** Wallingford

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

Branford CT Experiential Learning Center Middle School Melinda Alcosser

4027 Repurposing Plastic Into A Tiny House

Student(s) Avyay Yarlagadda **Grade 8** **Town** Guilford
Natalia Brown **Grade 8** **Town** North Haven

- * Future Sustainability Awards --- Middle School Finalist - Medallion
- * Society of Women Engineers - Hartford Section --- Scientific Calculator

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

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
3011 Analysis of the Antimicrobial and Antiproliferative Effects of the Coelomic Fluid of Lumbricus terrestris on E. coli and Yeast.
Student(s) Elizabeth Davis **Grade** 12 **Town** Trumbull

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Senior High Finalist - Medallion

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
6021 Utilizing a Graphene Oxide/Copper and Reflective Aluminum Design to Improve Heating/Cooling Efficiency
Student(s) Tageria Davis **Grade** 12 **Town** Bridgeport

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

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
3030 Allelopathic Effects of Invasive Red Macroalga (Grateloupia turuturu) for the Mitigation of Harmful Algal Blooms
Student(s) Lyle Given **Grade** 12 **Town** Fairfield

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 4th Place High School - Plaque, Medallion

* Environmental Sciences Awards with CACIWC --- HS Finalist - CSF Medallion

* Environmental / Energy Award- Urban Public School Award --- Environmental / Energy Award- Urban Public School Award - \$300

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
3045 Determining the Efficacy of Dexamethasone Infused Polypropylene Mesh to Prevent Post Surgical Abdominal Adhesion
Student(s) Jordan Macdonald **Grade** 12 **Town** Milford

* Petit Family Foundation Women in Science & Engineering Awards --- 2nd Place High School \$250 / plaque

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

* Meyerand Young Woman Scientist Awards --- \$300 cash - High School, Life Sciences

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle
6103 Utilization of Piezoelectric Elements for Power Generation on Wave-Impacted Shorelines within modifications of Breakwater Design.
Student(s) Ethan Pernek **Grade** 12 **Town** Stratford

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

* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion

Bridgeport Discovery Magnet School Helena Coatsworth
5006 PH's Color
Student(s) Beatriz Maia **Grade** 7 **Town** bridgeport

* Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences 7th Grade Ind. - trophy and Invitation Compete in Broadcom MASTERS

Bridgeport Discovery Magnet School Helena Coatsworth
5017 Crystal Current
Student(s) Arden Mauborgne **Grade** 7 **Town** Easton

* Future Sustainability Awards --- Middle School Finalist - Medallion

Bridgeport Multicultural Magnet School Mrs. Corina Starn
2006 HUMIDITY IMPACT
Student(s) Sofia Atehortua **Grade** 7 **Town** Bridgeport

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 7th grade - CSF Medallion

* American Meteorological Society --- Certificate & \$25 gift card given by CSEF

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

Bridgeport Thomas Hooker School Ms Cooley

2504 Cigarettes VS Vaping. My project is about how these two different ways of smoking affect your lungs

Student(s) Nathan Belinski **Grade 8** **Town** bridgeport

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion

Canton Canton Middle School Ashley LaPane

2501 Concentration of Microplastics in Four Farmington River Locations

Student(s) Lauren Marze **Grade 8** **Town** Canton

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences 8th grade- \$300 & trophy and Invite to Compete Broadcom MASTERS
- * Environmental Sciences Awards with CACIWC --- 2nd Place MS- \$200, Trophy
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Life Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Talcott Mountain Science Center & Academy --- Founder's Award - \$450 Saturday Mentorship Course at TMSC - Middle School Phys Science
- * Southeastern New England Marine Educators (SEMEME) --- \$100 award and membership in SEMEME - 1st Place Junior & T-Shirt

Cheshire Cheshire High School Julie Barker

6038 Object Detection Universal System [O.D.U.S]

Student(s) Siddhant Bhardwaj **Grade 9** **Town** Cheshire

- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering Senior High- \$400 & plaque
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 9-12 project
- * IEEE, Connecticut Section --- \$100 Honorable Mention

Danbury Henry Abbott Technical High School A.S. Ipkovich

6052 Efficient Electricity Production through Temperature Differential

Student(s) Yousef Masood **Grade 11** **Town** Danbury

- * Technical High School Science & Technology Awards --- 1st Place- Technical High School, Plaque & Stipend to Compete at GENIUS Olympiad
- * University of Hartford Scholarships --- University of Hartford Scholarship- For Excellence in Engineering, or Technology, \$27,000
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place Technical High School

Danbury Immaculate High School Daniel Baluha

6013 Effective Removal of Systemic Pesticides from Fresh Fruits

Student(s) Elias Haddad **Grade 11** **Town** Danbury

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * University of Hartford Scholarships --- University of Hartford Scholarship- For Excellence in Engineering, or Technology, \$27,000

Danbury Saint Joseph School Jennifer Reilly

2014 Beverage Stains on Teeth

Student(s) Charles Doran **Grade 7** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences 7th grade- \$100 & trophy and Invite to Compete Broadcom MASTERS

Danbury St. Gregory the Great School Christine Fahey

2518 The Effect of Vinegar on Plants' Resistance to Drought

Student(s) Tyler Fahey **Grade 8** **Town** Danbury

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

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

Danbury Westside Middle School Academy Jonathan Neuhausel

2520 Citric Acid Synthesis using Aspergillus Niger

Student(s) Ava Amatulli **Grade 8** **Town** Danbury

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion

Danbury Westside Middle School Academy Jonathan Neuhausel

2527 Kombucha SCOBY Infused Hydrogels as a Natural Bandaid Stopping the Growth of Escherichia coli

Student(s) Ella Brown **Grade 8** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences 8th grade- \$100 & trophy and Invite to Compete Broadcom MASTERS
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion
- * Alexion Biotechnology Awards --- 2nd Place- Biotechnology 8th grade- \$200 & trophy and Invitation Compete in Broadcom MASTERS
- * Meyerand Young Woman Scientist Awards --- \$300 cash - Middle School Life Sciences

Danbury Westside Middle School Academy Jonathan Neuhausel

5538 Designing an Automatic Watering Device using an Arduino

Student(s) Shriya Jonnalagadda **Grade 8** **Town** Danbury

- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Robert Francoeur Memorial Award --- Creative or innovative project in engineering or computer science by female students - \$200

Danbury Westside Middle School Academy Jonathan Neuhausel

5549 Making an Affordable Ozone Sensor and Proofing its Accuracy

Student(s) Richard Parker **Grade 8** **Town** danbury

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 2nd Place Middle School - \$200 and Trophy, Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Urban School Challenge 1st Place Middle School Awards --- Highest Placing 8th grader- GENIUS-Olympiad Competition -\$800 travel stipend (See Sponsor 421)
- * GENIUS Olympiad --- GENIUS Olympiad Competition for Highest Placing USC 8th grade Project
- * Dreams Unlimited Award --- \$100 Cash Award + Certificate to each student

Danbury Westside Middle School Academy Jonathan Neuhausel

2515 The Effect of Habitat Loss on a Cockroaches Stress and Well Being

Student(s) Kaitlyn Salvatore **Grade 8** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences 8th grade- \$200 & trophy and Invite to Compete Broadcom MASTERS
- * Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- Middle School \$300 / trophy
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 3rd Place Middle School - \$100 and Trophy, Medallion
- * Alexion Biotechnology Awards --- 1st Place- Biotechnology 8th grade- \$300 & trophy and Invitation Compete in Broadcom MASTERS

Danbury Westside Middle School Academy Jonathan Neuhausel

2510 Testing Escherichia coli's Resistance to Different Dilutions of Bacteriophage Coliphage T4 and Coliphage T4R

Student(s) Sabrina Serpa-Smith **Grade 8** **Town** danbury

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 8th grade - CSF Medallion

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

Danbury Westside Middle School Academy Jonathan Neuhausel

2502 Tumor Suppression of Agrobacterium tumefaciens in Daucus carota

Student(s) **Maria Eduarda Sousa** **Grade 8** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 4th Place- Life Sciences 8th grade- trophy and Invitation Compete in Broadcom MASTERS
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion
- * Alexion Biotechnology Awards --- 5th Place- Biotechnology 8th grade- trophy

Danielson H.H. Ellis Technical High School Marilyn Ackerman

6511 net zero YMCA

Student(s) **Elliane Mora** **Grade 10** **Town** Norwich
Kendyll Petty **Grade 10** **Town** Danielson

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

Darien Darien High School Mrs. Leventhal

3124 Dual Targeting of ARK5 and CDK4 to Induce Cell Death in Triple-Negative Breast Cancer

Student(s) **Shriya Desai** **Grade 12** **Town** Darien

- * Alexion Biotechnology Awards --- 2nd Place- Biotechnology Senior High- \$300 & plaque

Darien Darien High School Christine Leventhal

6083 Minimally invasive pancreatoduodenectomy versus open pancreatoduodenectomy in the current era: systematic review and meta-analysis of available literature

Student(s) **Ethan Zhang** **Grade 11** **Town** Darien

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

East Hartford St. Christopher School Dr. James F. Tanguay

5013 Exploring Magnetism

Student(s) **Daniel Mitchell** **Grade 7** **Town** Marlborough

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences 7th Grade Ind. - \$100 & trophy, invite to compete Broadcom MASTERS

Enfield Chiaravale Academy Timothy Coleman

1005 Using Charcoal as a Fertilizer Supplement

Student(s) **Joella Asapokhai** **Grade 7** **Town** South Windsor
Alexandria Croal **Grade 7** **Town** Enfield
Jordan Roy **Grade 7** **Town** Enfield

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences MS Team- \$100 each & trophy and Invite Compete Broadcom MASTERS
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF

Fairfield Fairfield Ludlowe High School Jessica Davis-Peineke

6039 Odachi Retrosynthesis Engine: Predicting Organic Retrosynthesis with Graph Convolutional Deep Learning

Student(s) **Rushil Mallarapu** **Grade 11** **Town** Southport

- * Computer Science Awards --- 1st Place High School - \$400, Plaque

Farmington Farmington High School Xiaodi Wang

3517 Wavelet-Based Machine Learning Algorithms to Enhance Cardiovascular Disease Diagnosis

Student(s) **Veronica Pegkou Christofi** **Grade 12** **Town** Farmington
Rafaela Kottou **Grade 12** **Town** Farmington

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences Senior High Team- \$500 (split) & Plaque
- * Mathematics Awards - with ATOMIC --- 3rd Place High School - Plaque, \$200 from People's United Bank

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

Farmington Irving Robbins Middle School Nancy Stacy

5019 Intelligent Rice Blast Disease Detector

Student(s) **Ann Song** **Grade 7** **Town** Farmington

- * Applied Technology Awards --- Middle School Finalist - Medallion
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology 7th grade- \$100 & trophy and Invitation Compete in Broadcom MASTERS

Forestville St. Matthew School Miss Persichetti

2024 Does age affect memory?

Student(s) **Victoria Matkowski** **Grade 7** **Town** Bristol

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 7th grade - CSF Medallion

Glastonbury Glastonbury High School Ms. Diane Pintavalle

3055 ENZYME TRIGGERED DEGRADATION STUDIES OF A NUCLEUS TARGETED NUCLEIC ACID NANOCAPSULE

Student(s) **Ananya Aggarwal** **Grade 12** **Town** South Glastonbury

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

Glastonbury Glastonbury High School Diane Pintavalle

3014 Understanding the antimicrobial properties of type 2 Abeacin

Student(s) **Andrei Radulescu** **Grade 12** **Town** Glastonbury

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences Senior High- \$200 & Plaque

Greenwich Brunswick School Dana Montanez

3501 Utilization of Micro-bubbles as a Catalyst for Flocculation of Polluted Water

Student(s) **Tristan Chang** **Grade 11** **Town** Greenwich

Coulter Mackesy **Grade 11** **Town** Bronxville

- * Applied Technology Awards --- Senior High Finalist - Medallion

Greenwich Brunswick School Dana Montanez

3076 Predicting Droughts from Satellite Images using Novel Convolutional Neural Network Techniques

Student(s) **Ali Hindy** **Grade 11** **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * American Meteorological Society --- Certificate & \$25 gift card given by CSEF

Greenwich Brunswick School Dana Montanez

6510 Desalination and Purification of Seawater using Solar-Powered Electrodialysis

Student(s) **Gregory Kapp** **Grade 10** **Town** Greenwich

Michael Montgomery **Grade 10** **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 3rd Place - Physical Sciences Senior High Team - Plaque

Greenwich Brunswick School Dana Montanez

6019 Texting-and-Driving Safety Device: Utilizing a Hydraulic Braking System Activated by a Touch-Sensor Steering Wheel to Increase Driver Engagement.

Student(s) **Noah Levi** **Grade 11** **Town** Wilton

- * Applied Technology Awards --- 1st Place High School - \$500 and Plaque, Medallion
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 9-12 project
- * Zepke Awards --- \$125 - For the Best Use of Electronic Circuitry- Senior High
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2
- * University of Connecticut Academic Excellence Scholarship --- Academic Excellence Physical Sci. scholarship - \$7,500 /year, four academic years- (\$30,000 total)

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

Greenwich Brunswick School Dana Montanez

6068 Development of a Novel Neural Network Architecture for Improved Multiclass Classification

Student(s) **Jamison Meindl** **Grade** 12 **Town** Riverside

* Mathematics Awards - with ATOMIC --- High School Finalist - Medallion

Greenwich Brunswick School Dana Montanez

6529 Optimization of the Insoles: Material Testing to Maximize Athletic Results

Student(s) **Myles Spiess** **Grade** 10 **Town** Old Greenwich

Nicholas Altman **Grade** 10 **Town** Mount Kisco

* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion

* Samantha Freeman Award for Excellence in Sports Science or Engineering --- For Excellence in Sports Science or Engineering by a High School student, \$150 cash

Greenwich Greenwich Academy Kristin Gannon

2018 The Effects of Fertilizers on the Diversity and Density of Soil Microbes

Student(s) **Ruby Montanez** **Grade** 7 **Town** Greenwich

* PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences 7th grade- \$100 & trophy and Invite to Compete Broadcom MASTERS

* Environmental Sciences Awards with CACIWC --- 3rd Place MS- \$100, Trophy

* Alexion Biotechnology Awards --- 4th Place- Biotechnology 7th grade- trophy and Invitation Compete in Broadcom MASTERS

Greenwich Greenwich Academy Dr. Monica Ortiz

3016 Using Artificial Intelligence to Uncover the Connection between RNA Gene Expression and Cancer

Student(s) **Natalie Shell** **Grade** 10 **Town** Greenwich

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

* CT Technology Council / CT Center for Advanced Technology Young Woman Innovation Award --- \$150 Cash Award for Technological Innovation by a female project

Greenwich Greenwich Catholic School Mrs. Carol Lutz

4038 Shades N' Rays

Student(s) **Elle Brew** **Grade** 7 **Town** Greenwich

Kate Robinson **Grade** 7 **Town** Stamford

Sofia Navarrete **Grade** 7 **Town** Stamford

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

Greenwich Greenwich Catholic School Carol Ann Lutz

4011 Vibration Voltage

Student(s) **William Carragher** **Grade** 8 **Town** Stamford

Christian Sorbera **Grade** 8 **Town** Greenwich

Sydney Dettmer **Grade** 8 **Town** Stamford

* Alternative/Renewable Energy Awards --- 1st Place Middle School - \$300 Cash and Trophy

Greenwich Greenwich High School Bramante

3018 Non-Invasive Augmentation of Modern Depression Phototherapy through Targeting

Student(s) **Charlie Decker** **Grade** 11 **Town** Old Greenwich

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion

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

* Otero Family Award --- The Otero Family Award; \$200 cash

* University of Connecticut Academic Excellence Scholarship --- Academic Excellence Life Sciences scholarship - \$7,500/year, four academic years- (\$30,000 total)

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

Greenwich Greenwich High School Andrew Bramante

6026 Decoding Algorithms for Correction of X-Z and Spatially Correlated Errors in Topological Quantum Computing

Student(s) Sam Florin **Grade** 11 **Town** Greenwich

- * Computer Science Awards --- Senior High Finalist - Medallion
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Physical Sciences - Co-Op \$100 Gift Certificat

Greenwich Greenwich High School Andrew Bramante

3050 Early Diagnosis of Pancreatic Cancer via Urinary Biomarkers with a New, Rapid, and Simple Lateral Flow Assay

Student(s) Ana-Florina Galic **Grade** 10 **Town** Riverside

- * Collins Aerospace Engineering Awards --- 1st Place- Engineering Senior High- \$500 & plaque,
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology Senior High- \$300 & plaque
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

Greenwich Greenwich High School Andrew Bramante

3103 Improved Design and Field Verification of Varroa destructor Control with a Dual-function, Thymol-

Student(s) Raina Jain **Grade** 12 **Town** Riverside

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Environmental Sciences Awards with CACIWC --- 1st Place HS- Plaque & \$800 Stipend to Compete at GENIUS Olympiad
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Innovative Concept Award - \$100
- * Jon Chapis Memorial Award --- John Chapis Spirit of Innovation Award - HS \$200
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Environmental Project

Greenwich Greenwich High School Andrew Bramante

6091 Incorporation of TiO₂-Ag Nanostructures into LDPE Bags, to Create an Antifungal Plastic Wrap to Reduce Food Waste

Student(s) Alexandra Mark **Grade** 12 **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences Senior High Individual - \$200 & Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion

Greenwich Greenwich High School Andrew Bramante

6059 Scale-up of Water-Splitting Hydrogen Production Using Piezo-Electrochemical Nanostructures and Ambient Processes

Student(s) Zachary Mester **Grade** 12 **Town** Cos Cob

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * MTU Aero Engines North America, Inc. --- MTU Aero Engines Mechanical Engineering Applied Principles Award - \$100

Greenwich Greenwich High School Andrew Bramante

6072 Creation of a CO₂-free Energy via a Solar-Powered Cu₂O Nanowire Microbial - Algae Photosynthetic Bioreactor

Student(s) Madeline Minichetti **Grade** 9 **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences Senior High Individual - Plaque
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * Constellation, an Exelon Company --- 1st: \$150.00 Cash - Grade 9 - 12: For Excellence in clean renewable / sustainable energy
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, high school, \$75 cash award

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

Greenwich Greenwich High School Andrew Bramante

3098 Smartphone Detection of Cardiovascular Disease using Retinal Features of Fundus Photography

Student(s) Ella Moore **Grade** 10 **Town** Greenwich

- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- 4th Place- Biotechnology Senior High- plaque

Greenwich Greenwich High School Andrew Bramante

3066 Creation of a Rapid, Non-Invasive Diagnosis for Specific Learning Disorders via Fixation Tracking in Gaze Interaction

Student(s) Alexa Nakanishi **Grade** 10 **Town** Cos Cob

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

Greenwich Greenwich High School Andrew Bramante

3024 Plant Growth Enhancement & Fungal Disease Suppression via Copper and Zinc Nanoparticle Foliar Sprays

Student(s) Alexander Patti **Grade** 11 **Town** Bedford Hills

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion

Greenwich Greenwich High School Andrew Bramante

3094 Carbon Nanowire Lab-on-Chip as a Rapid, Inexpensive, Lyme Disease Detection System

Student(s) Sofia Pronina **Grade** 11 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion
- * Biophysical Society --- Biophysics Award- \$100

Greenwich Greenwich High School Andrew Bramante

6066 Development of a Superhydrophobic Coating for Vehicular Surfaces to Promote Spontaneous Water Droplet Trampolining, Repulsion, and Reduced Icing Tendencies at Normal Pressures

Student(s) Chiara Rissola **Grade** 11 **Town** Old Greenwich

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Collins Aerospace 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 certificate given by ONR

Greenwich Greenwich High School Andrew Bramante

3020 Metal Oxide Nanoparticle Suppression of Coffee Rust Using a Alternaria, Stomata-

Student(s) Edgar Sosa **Grade** 11 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Environmental Sciences Awards with CACIWC --- 3rd Place HS- \$100, Plaque
- * Future Sustainability Awards --- 1st Place High School - Plaque & \$800 Stipend to Compete at GENIUS Olympiad
- * Society for In Vitro Biology --- Certificate and \$25 gift card given by CSEF
- * University of Hartford Scholarships --- University of Hartford Scholarship- For Excellence in Science or Mathematics \$27,000
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Future Sustainability

Greenwich Greenwich High School Andrew Bramante

6035 Enhancement of a Flow-Through, Solar Water Disinfection System using Combined UV/Riboflavin Photocatalytic Treatment

Student(s) Colin Speaker **Grade** 11 **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Individual - \$300 & Plaque

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

Greenwich Greenwich High School Mr. Andrew Bramante

3120 Design of a Lateral-Flow, Species-specific Rapid Diagnostic Test for Malaria

Student(s) John Trudeau **Grade** 10 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- 5th Place- Life Sciences Senior High- Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- 5th Place- Biotechnology Senior High- plaque

Greenwich Greenwich High School Andrew Bramante

3127 Discovery of a Novel Therapeutic Vulnerability in Pancreatic Ductal Adenocarcinoma via an Unbiased High-Throughput Drug Screen

Student(s) Melissa Woo **Grade** 12 **Town** Riverside

- * PepsiCo / Pfizer Life Sciences Awards --- 4th Place- Life Sciences Senior High- Plaque

Greenwich Sacred Heart Greenwich Mary Musolino

3063 Testing Natural and Synthetic Substances for Oil Spill Cleanup

Student(s) Zoe Kassapidis **Grade** 12 **Town** Greenwich

- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- High School- \$150 / plaque
- * Future Sustainability Awards --- 2nd Place High School - \$300 Cash and Plaque
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition

Greenwich Sacred Heart Greenwich Mary Musolino

3503 Using Microbiome Analysis to Determine the Effectiveness of a Unique Ceramic Water Filter

Student(s) Avery McCloskey **Grade** 12 **Town** Bronxville
Kellie Ulmer **Grade** 12 **Town** Rye
Gabriella DiBiase **Grade** 12 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High Team - CSF Medallion
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition

Greenwich Sacred Heart Greenwich Mary Musolino

3515 The Effect of Construction on the Quality of Water in the Mianus River

Student(s) Isabella Rogers **Grade** 12 **Town** Cos Cob
Cameron Calcano **Grade** 12 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High Team - CSF Medallion

Greenwich Sacred Heart Greenwich Mary Musolino

3533 Using Nile Red Dye to test for the Presence of Microplastics in Bottled Water

Student(s) Julia Welsh **Grade** 12 **Town** Greenwich
Erin O'Connor **Grade** 12 **Town** Greenwich
Renata Trevino **Grade** 12 **Town** Stamford

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place - Life Sciences Senior High Team - Plaque

Guilford E.C. Adams Middle School Diane Stevens

4036 WAZE to Evaluate Traffic: The Drive from Guilford to JFK

Student(s) Jason Li **Grade** 8 **Town** Guilford
Eric Huang **Grade** 7 **Town** Guilford
William Cong **Grade** 8 **Town** Guilford

- * Mathematics Awards - with ATOMIC --- 2nd Place Middle School- \$100 from ATOMIC, and Trophy, \$200 from People's United Bank

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

Hamden Sacred Heart Academy Dr. Sibani Sengupta

6018 Oil Spill Management Using Plant Products

Student(s) Mehr Chhatre **Grade** 10 **Town** Hamden

* Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion

Hartford Environmental Sciences Magnet School Mrs Hays

2012 Now You Sea It

Student(s) Isabella D'Agostino **Grade** 7 **Town** New Britain

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 7th grade - CSF Medallion

* American Meteorological Society --- Certificate & \$25 gift card given by CSEF

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

* Project Oceanology --- Individual - 1 Ocean Camp slot + T-Shirt & cap, First Place Junior

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

Hartford Environmental Sciences Magnet School Mrs. Hays

5548 Microplastic Mania

Student(s) Ava Hamilton **Grade** 8 **Town** Hartford

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

Manchester East Catholic High School Lesa Milas

6093 Biomimicry of Woodpecker Anatomy to Improve Helmet Design in Prevention of Chronic Traumatic Encephalopathy

Student(s) John Oei **Grade** 11 **Town** Hebron

* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion

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

* Yale Science & Engineering Association, Inc. --- 1 Certificate, Medallion and 1- \$25 gift card given by CSEF

* University of New Haven Scholarship Awards --- University of New Haven 4 year scholarship - \$80,000 (\$20,000 per year)

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

Manchester Saint James School Mrs Mary J Plante

4040 Does The Baseball Bat You Use Affect How You Hit?

Student(s) Porter Breton **Grade** 7 **Town** Manchester

Zachary Nyberg **Grade** 7 **Town** Manchester

* Collins Aerospace Engineering Awards --- 3rd Place- Engineering MS \$100 & trophy and Invitation Compete in Broadcom MASTERS

Meriden Thomas Edison Middle School Caitlin Lombardi

1001 Sliding Soil

Student(s) Jacie Carrero **Grade** 7 **Town** Meriden

Faith Rose **Grade** 7 **Town** Waterbury

Grace Rose **Grade** 7 **Town** Waterbury

* PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences MS Team- trophy and Invite to Compete Broadcom MASTERS

Milford Platt Technical High School Jessica Stamp

6048 Augmented Reality Chemistry

Student(s) Ethan Feldman **Grade** 12 **Town** Milford

* Computer Science Awards --- 3rd Place High School- \$200, Plaque

* United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report

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

New Canaan St. Aloysius School Mrs. Phillips

5020 The relationship between Tree species and BTUs

Student(s) **Richard Marquis** **Grade 7** **Town** Norwalk

* Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences 7th Grade Individual - trophy

New Haven Celentano Magnet School Ashley Mulligan

2026 Correlation Between Fertilizer Use and Grass Growth

Student(s) **Nurializ Torres** **Grade 7** **Town** New Haven

* PepsiCo / Pfizer Life Sciences Awards --- 4th Place- Life Sciences 7th grade- trophy and Invitation Compete in Broadcom MASTERS

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

New Haven Sound School Charles Mulligan

3502 Potential of Ocean Acidification to Interfere with Predator Prey Relationships of Coastal Invertebrates (Carcinus maenas).

Student(s) **Ruby Hoffman Blustajn** **Grade 9** **Town** Hamden

Gabriella Spata **Grade 9** **Town** New Haven

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 5th Place High School - Plaque, Medallion

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

New Haven Worthington Hooker Middle School Douglas Jones

1017 Fending off the Fast Fade of Flowers: What solution will keep YOUR flowers happy?

Student(s) **Sophia Zhang** **Grade 8** **Town** New Haven

Keren Tan **Grade 8** **Town** New Haven

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

New London Science and Technology Magnet High School Karen Napolitano

3028 The Effect of Acid Solutions on the Abrasion Resistance , Percussion Resistance, and the weight of a Snail's Shell

Student(s) **Akheena Farrior-Parcak** **Grade 10** **Town** Quaker Hill

* CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Senior High Finalist - Medallion

* U.S. Metric Association --- Certificate & \$25 gift card given by CSEF

Norwich Norwich Technical High School Aleatha Pelloni

3520 The Effects of Alternating Red Wiggler Worms Gut Microbes to Degrade Lignin in Plants for Biofuels

Student(s) **Jessie Adams** **Grade 11** **Town** Killingly

Ontasia Perry **Grade 11** **Town** Norwich

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High Team - CSF Medallion

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

* The Goodwin-Niering Center for the Environment --- \$100 for "Excellence in Environmental Conservation Studies"

Norwich Norwich Technical High School Aleatha Pelloni

3534 The Effects of Dextrose on Drosophila melanogaster with fragile x

Student(s) **Olivia Corrente** **Grade 11** **Town** Plainfield

Kevin Clark **Grade 11** **Town** Voluntown

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High Team - CSF Medallion

Norwich Norwich Technical High School Aleatha Pelloni

3525 The Effects of Biochar on Plant Growth in a Large Scale Setting

Student(s) **Max DeWolf** **Grade 11** **Town** Canterbury

Owen Blanchard **Grade 11** **Town** Scotland

* PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences Senior High Team- \$300 (split) & Plaque

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

[SchTown] [School] [Teacher]
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Pawcatuck St. Michael School Mrs. Anna-Helene Grossomanides

2029 Showdown of the Sugars: The Effect of Sugar Substitutes on Yeast Growth

Student(s) Emerson Baltrukonis **Grade 7** **Town** Pawcatuck

- * PepsiCo / Pfizer Life Sciences Awards --- 5rd Place- Life Sciences 7th grade- trophy
- * Sister Mary Christine Life Sciences Award --- \$100 for excellence in the life sciences by a catholic middle school project

Redding CT STEM Foundation Catherine Piscitelli

3069 Inter-Specific Competition Between Two Invasive Mosquito Species, Aedes aegypti and Aedes albopictus, over Multiple Generations

Student(s) Jack Tajmajer **Grade 12** **Town** Naugatuck

- * Environmental Sciences Awards with CACIWC --- 2nd Place HS- \$200, Plaque

Shelton Shelton High School Mr. Kelley

3085 Slide to Track Band

Student(s) Katie Bergers **Grade 9** **Town** Shelton

- * Applied Technology Awards --- Senior High Finalist - Medallion

Simsbury Westminster School Peter Doucette

6073 Biases in First and Second Moments of the Fourier Coefficients in One- and Two-Parameter Families of Elliptic Curves

Student(s) Michelle(Jiefei) Wu **Grade 11** **Town** Simsbury

- * Mathematics Awards - with ATOMIC --- 1st Place High School- \$150 from ATOMIC, Plaque, \$500 from People's United Bank
- * Mu Alpha Theta --- Certificate, \$25 gift card given by CSEF
- * Maplesoft Awards for Applied Mathematics and Modeling --- Maple software - For Excellence in Mathematics

Stamford Bi-Cultural Hebrew Academy Mr. Christopher Graseck

1010 "Sweet Seeds"

Student(s) Maddie Winarsky **Grade 7** **Town** Stamford

Sabrina Weisel **Grade 7** **Town** Stamford

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

Stamford King School Victoria Schulman

3041 Classifying Subtypes of Renal Cell Carcinoma

Student(s) Ryan Heaton **Grade 11** **Town** Pound Ridge

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion

Stamford King School Victoria Schulman

6001 Temperature Dependence of the Electrochemical Conversion of Methane to Methanol

Student(s) Samuel Hillenmeyer **Grade 11** **Town** Stamford

- * Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences Senior High Individual - Plaque

Stamford King School Victoria Schulman

3057 Antimicrobial Peptides and Antibiotics Have Bactericidal and Bacteriostatic Effects on Wild-Type E. coli

Student(s) Joseph Winterlich **Grade 11** **Town** Stamford

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

[SchTown] [School] [Teacher]
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Stamford Scofield Magnet Middle School Julie Moyer

5251 Effects of Magnesium Chloride on Water Quality

Student(s) **Aryan Pandalai** **Grade 8** **Town** Stamford

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion
- * Future Sustainability Awards --- 1st Place Middle School - \$300 Cash and Trophy

Suffield Suffield Academy Paul Caginalp

6030 Increasing the efficiency of a household methane gas recovery system as a reliable energy source in rural Guatemala

Student(s) **Jina Lee** **Grade 10** **Town** Suffield

- * Alternative/Renewable Energy Awards --- 1st Place High School - \$500 Cash and Plaque

Trumbull Christian Heritage School Mr. Dan Cote

5545 PH Testing of River, Tap, Well and Bottled Water

Student(s) **Jade Deus** **Grade 8** **Town** Shelton

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

Trumbull Christian Heritage School Daniel Cote

5525 Relationship between Viscosity and Saturated Fat in cooking oils

Student(s) **Sofia Khan** **Grade 8** **Town** Stratford

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

Trumbull Christian Heritage School Daniel Cote

3044 Production of Biodegradable, Sustainable Plastic from Food Waste through the Polymerization of Lactic Acid

Student(s) **Andrea Piraneque** **Grade 11** **Town** Trumbull

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

Washington Rumsey Hall Liz Butler

2512 A Heart Rate Monitor to Predict Autistic Meltdowns

Student(s) **Junting Wang** **Grade 8** **Town** Washingtin Depot

- * PepsiCo / Pfizer Life Sciences Awards --- 5th Place- Life Sciences 8th grade- trophy
- * Computer Science Awards --- 3rd Place Middle School- \$100, Trophy
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Robotics And Beyond --- Middle School- For excellence in engineering design; \$200 toward Robotics And Beyond STEM and Design summer camp, \$50 cash if cannot attend camp. Certificate.

West Hartford Kingswood Oxford School Josh Garrison

5027 Communicaider App

Student(s) **Evan Poole** **Grade 7** **Town** Farmington

- * Applied Technology Awards --- 3rd Place Middle School - \$100 and Trophy, Medallion
- * Computer Science Awards --- 2nd Place Middle School - \$200, Trophy
- * Connecticut Academy of Audiology --- \$200 Award MS- For Excellence in Audiology and Acoustics, opport. to shadow an audiologist

West Haven Engineering and Science University Magnet School Roger Rushworth

6060 The Effect of Axial Tilt of Hyperboloidal Gears on Mechanical Efficiency

Student(s) **Aiman-Imran Anuar** **Grade 10** **Town** West Haven

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Senior High Finalist - Medallion
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * Connecticut Association of Physics Teachers --- \$100 Senior project

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West Haven Engineering and Science University Magnet School Roger Rushworth

3125 Comparative Analysis of the Mitigation and Emissions Rates of Volatile-Organic Compounds in Various Ornamental Plants Using a Monitored Environment

Student(s) Patricia Joseph **Grade** 10 **Town** Hamden

- * PepsiCo / Pfizer Life Sciences Awards --- 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

West Haven Engineering and Science University Magnet School Roger Rushworth

2007 Effectiveness of the Organic Polymers for Removing Microplastic in an Aqueous Solution

Student(s) Snigtha Mohanraj **Grade** 7 **Town** Ansonia

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences 7th grade- \$200 & trophy and Invitation to Compete Broadcom MASTERS
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 1st Place Middle School - \$300 and Trophy, Medallion
- * Environmental Sciences Awards with CACIWC --- 1st Place MS - \$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 --- 1st Place- Biotechnology 7th grade- \$300 & trophy and Invitation Compete in Broadcom MASTERS
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF
- * Institute of Food Technologists, Nutmeg Section --- \$50 award + invitation to Awards Night Dinner with guest
- * J.A. Augustine Award --- \$100 for excellence in biology
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 7th grader- Project Oceanology's Ocean Camp
- * TurnKey Compliance Solutions Environmental Awards --- \$200 Cash Award Middle School- For excellence in environmental sciences
- * Broadcom MASTERS --- The Lemelson Early Inventor Prize

West Haven Engineering and Science University Magnet School Roger Rushworth

3506 Biomarker model for cancer: Novel approach to correlate the ratio of reduced and oxidized glutathione, and immune cells

Student(s) Ray Nassar **Grade** 9 **Town** Milford

Praneeth Chitralia **Grade** 9 **Town** Milford

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High Team - CSF Medallion

West Haven Engineering and Science University Magnet School Roger Rush worth

1020 How different genres of Music affect focus and memory.

Student(s) Henry Rugemer **Grade** 8 **Town** New Haven

jack jessen **Grade** 8 **Town** New haven

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences Middle School Team - CSF Medallion

Westport Greens Farms Academy Mathieu Freeman

3036 Impacts of Blue Light on the Eye Structure and Brain Activity of Drosophila Melanogaster

Student(s) Ava Ewing **Grade** 12 **Town** Darien

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences Senior High- \$300 & Plaque
- * American Psychological Association --- Certificate, \$25 gift card given by CSEF
- * Kathleen & David Smith Awards --- Kathleen & David Smith Award for Laser Application - \$100

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Westport Greens Farms Academy Mrs. Modupe Oshin

5512 Water Filter and Water Turbine

Student(s) Jakob Zapanta **Grade 8** **Town** Bridgeport

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences 8th Grade Ind.- \$300 & trophy, invite to compete Broadcom MASTERS
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Physical Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF

Wilton Middlebrook Middle School Paige Randall

5022 Voice To Text Handwriting Replicator

Student(s) Zachary Coleman **Grade 7** **Town** Wilton

- * Applied Technology Awards --- Middle School Finalist - Medallion

Wilton Middlebrook Middle School Ms. Garcia

1014 Effects of Fertilizer on Algae Growth

Student(s) Illeas Paschalidis **Grade 8** **Town** Wilton
Shawn Gregory **Grade 8** **Town** Wilton

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences MS Team- \$100 each & trophy and Invite to Compete Broadcom MASTERS
- * Alexion Biotechnology Awards --- 4th Place- Biotechnology 8th grade- trophy and Invitation Compete in Broadcom MASTERS

Wilton Middlebrook Middle School Debbie Mallozzi

5518 Heart Safe

Student(s) Anup Pilla **Grade 8** **Town** Wilton

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences 8th Grade Ind. - \$200 & trophy, invite to compete Broadcom MASTERS
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology 8th grade- \$100 & trophy and Invitation Compete in Broadcom MASTERS

Windsor Academy of Aerospace & Engineering Dr. Michelle Bellinger

6016 Optimization of Energy Storage of Capacitors with Hydrogel Electrolyte

Student(s) Emily Ngo **Grade 12** **Town** South Windsor

- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- Senior High Finalist - Medallion
- * Meyerand Young Woman Scientist Awards --- \$300 cash - High School, Physical Sciences

Windsor Academy of Aerospace and Engineering Dr. Bellinger

6522 Effective Augmentation of Urban Wind Energy Harvesters to Increase Electric Power Generation and Environmental Protections

Student(s) Johnathan Bell **Grade 12** **Town** Windsor
Devesh Kakar **Grade 12** **Town** South Windsor

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 1st Place High School - \$500 and Plaque, 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

Windsor Academy of Aerospace and Engineering Michelle Bellinger

6517 Cyber Attack Identification in the Electric Power Grid by Anomaly Detection

Student(s) Trevor Brunette **Grade 12** **Town** Glastonbury
Christopher Reed **Grade 12** **Town** Enfield

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences Senior High Team- \$500 (split) & Plaque
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Frank J. Link Family Award for Energy Related Research --- Frank J. Link Award for Energy Related Research - \$50

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Windsor Academy of Aerospace and Engineering Dr. Bellinger

4001 Transforming Ocean Wave Energy to Electrical Energy

Student(s) **Sujay Chava** **Grade 7** **Town** Ellington
Atul Shreyas Konda **Grade 7** **Town** Cromwell

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences MS Team- \$100 each & trophy, invite to compete Broadcom MASTERS
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 4th Place Middle School - Trophy, Medallion
- * Collins Aerospace Engineering Awards --- 1st Place- Engineering Middle School- \$400 & trophy and Invitation Compete in Broadcom MASTERS
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Windsor Academy of Aerospace and Engineering Dr. Bellinger

4017 Factors influencing crystal growth.

Student(s) **Laasya Chintapalli** **Grade 7** **Town** Middletown
Saanvi Talanki **Grade 7** **Town** South Windsor

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

Windsor Academy of Aerospace and Engineering Dr. Aramli

3026 The effect of grafting on the sugar content of cherry tomatoes.

Student(s) **Kayla Flint** **Grade 11** **Town** Ellington

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion

Windsor Academy of Aerospace and Engineering Dr. Michelle Bellinger

6007 Monitoring Infant Vital Signs Through a Car Seat Embedded Piezoelectric Sensor Network

Student(s) **Gianna Guzzo** **Grade 12** **Town** Suffield

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 3rd Place High School - \$ 300 and Plaque, Medallion
- * Applied Technology Awards --- 2nd Place High School - \$300 and Plaque Medallion
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 9-12 project
- * IEEE, Connecticut Section --- \$250 Honors Award -Senior
- * Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Windsor Academy of Aerospace and Engineering Michelle, Bellinger

4033 Effect of Bamboo, plastic on the strength of concrete

Student(s) **Rawan Ibrahim** **Grade 7** **Town** Bristol
Vikram Haran **Grade 12** **Town** Ellington

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences MS Team- \$100 each & trophy, invite to compete Broadcom MASTERS
- * ASM Materials Education Foundation --- Certificate & \$25 gift card given by CSEF
- * CT Architecture Foundation - The William M. Mack, AIA Award --- \$250 Gift Certificate to Barnes and Noble from the Connecticut Architecture Foundation, William M. Mack, AIA Award.

Windsor Academy of Aerospace and Engineering Dr. Michelle Bellinger

6049 Subtractive Manufacturing Techniques for Preparing Inexpensive Thermoplastic Microlens Arrays

Student(s) **Andrea Lacunza** **Grade 12** **Town** Avon

- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report

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Windsor Academy of Aerospace and Engineering Dr. Bellinger

5526 Harvesting Energy From Rainwater With An Archimedean Screw.

Student(s) **Ronak Ramesh** **Grade 8** **Town** Middletown

- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 5th Place Middle School - Trophy, Medallion
- * Alternative/Renewable Energy Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * Constellation, an Exelon Company --- 1st: \$100.00 Cash - Grade 7 - 8: For Excellence in clean renewable / sustainable energy
- * Connecticut Science Supervisors Association --- \$125 for a middle school project
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Windsor Academy of Aerospace and Engineering Dr. Michelle Bellinger

6509 Optimization of Energy Production through Active Augmentation of Hydro-Turbine Body and Blade Design.

Student(s) **Avaneesh Sathish** **Grade 12** **Town** South Windsor
Nikhlesh Sivakumar **Grade 12** **Town** Rocky Hill

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Team- \$300(split) & Plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards with IBM --- 2nd Place High School - \$400 and Plaque, Medallion
- * Applied Technology Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion
- * GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Windsor Madina Academy Timothy Coleman

2503 The Effects of Three Macro-nutrients on the Reaction Time of Human Subjects.

Student(s) **Ismael Shelbaya** **Grade 8** **Town** South Windsor

- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * Jon Chapis Memorial Award --- John Chapis Spirit of Innovation Award - MS \$100

Windsor Madina Academy Mr. Timothy Coleman

5023 Developing a Novel Eco-Friendly System that Recovers Wasted Thermal and Kinetic Energy From a Dryer Exhaust

Student(s) **Tasneem Zoghoh** **Grade 7** **Town** Enfield

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences 7th Grade Ind. - \$100 & trophy, invite to compete Broadcom MASTERS
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Demos R Us Award --- \$150 Cash Award-- Clear Execution of Research- 7th Grade

Windsor The Loomis Chaffee School Koby Osei-Mensah

6084 RandGAN: Testing the Limits of Small Neural Networks

Student(s) **Aresh Pourkavoos** **Grade 11** **Town** Avon

- * Mathematics Awards - with ATOMIC --- 2nd Place High School- \$100 from ATOMIC, Plaque, \$300 from People's United Bank
- * Applied Technology Awards --- Senior High Finalist - Medallion
- * Computer Science Awards --- 2nd Place High School - \$300, Plaque
- * Mu Alpha Theta --- Certificate, \$25 gift card given by CSEF

Woodbridge Amity Regional High School Mrs. Catherine Piscitelli

3101 Using Pure and Copper-doped Zeolite Catalysts to Degrade Lignin Polymers into Biofuel

Student(s) **Raymond Lu** **Grade 12** **Town** Orange

- * Alternative/Renewable Energy Awards --- 2nd Place High School - \$300 Cash and Plaque

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

Woodbridge Amity Regional High School Catherine Piscitelli

3090 Optimizing THP-1 Differentiation to Analyze the Role of CFTR deficiency on THP-1 Macrophage Polarization to Establish a Model System

Student(s) **Siavash Raissi** **Grade 12** **Town** Woodbridge

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

Woodbridge Amity Regional High School Catherine Piscitelli

6036 Using an Automated Coating System to Optimize Nitric Oxide Release Patterns of Antibacterial Catheters

Student(s) **Abigail Slanski** **Grade 12** **Town** Woodbridge

* Lockheed Martin Physical Sciences 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

Woodbridge Amity Regional High School Catherine Piscitelli

3070 Analyzing the Role of Sonic Hedgehog Signaling in Germinal Center B-Cell Differentiation

Student(s) **Wendy Zhang** **Grade 11** **Town** Woodbridge

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
* Society for In Vitro Biology --- Certificate and \$25 gift card given by CSEF
* University of Hartford Scholarships --- University of Hartford Scholarship- For Excellence in Science or Mathematics \$27,000