



Conn. Science & Engineering Fair

Quinnipiac University

March 8 - 20, 2021

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:

- Fair Category
- Finalist standing in regular fair (1st, 2nd, etc)
- Project number

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

Life Sciences - High School Individual

Greenwich Greenwich High School Andrew Bramante

3037 Rapid, Noninvasive, Fluorescence-Based Detection for Elevated Levels of Nitric Oxide in Exhaled Breath, As a Marker for Hazardous PM2.5 Exposure

Student(s) Ambika Grover **Grade** 10 **Town** Riverside

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences Senior High- \$500 & Plaque
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering --- Life Sciences Senior 1st HS- \$1,000, Solid Silver Medal of Excellence, Invite to CASE Annual Mtg
- * Alexion Biotechnology Awards --- 1st Place- Biotechnology Senior High- \$500 & plaque
- * Connecticut Science Supervisors Association --- \$125 for a high school project
- * Susan Lessoff Award for Excellence In Chemistry --- Susan Lessoff Excellence In Chemistry Award -\$200 Cash and Plaque - High School
- * Biophysical Society --- Biophysics Award- \$100
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

Greenwich Greenwich High School Andrew Bramante

3018 Linking Continued Exposure to E-cigarette Vapor Constituents with Chronic Obstructive Pulmonary Disease

Student(s) Hannah Goldenberg **Grade** 12 **Town** Old Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences Senior High- \$300 & Plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * Alexion Biotechnology Awards --- 5th Place- Biotechnology Senior High- plaque

Bridgeport Bridgeport Regional Aquaculture Center Mr. Kirk Shadle

3052 The Social Interactions and Learning Abilities Between Dogfish, Observed Using Two Different Methods of Target Training.

Student(s) Clayton Nyiri **Grade** 12 **Town** Fairfield

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences Senior High- \$200 & Plaque
- * CASE • The Jackson Laboratory 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 --- \$500 to 1st HS Urban School Challenge Science Department for Equipment/Supplies
- * American Psychological Association --- Certificate, \$25 gift card given by CSEF

Windsor The Loomis Chaffee School Mark LeBlanc

3005 Probing Wolbachia Genomes with Machine Learning Algorithms

Student(s) Sean Lee **Grade** 11 **Town** Los Altos

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

Greenwich Greenwich High School Andrew Bramante

3107 Inhibition of Covid-19 Respiratory Complications Via an R-954 Peptide Bradykinin 1 Receptor Antagonist

Student(s) Ella Moore **Grade** 11 **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- 5th Place- Life Sciences Senior High- Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Yale Science & Engineering Association, Inc. --- 1 Certificate, Medallion and 1- \$25 gift card given by CSEF
- * Lunch with a Patent Attorney ---

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

Ridgefield Ridgefield High School Ryan Gleason

3002 Exploring p53 Mutation Status and Clinical Outcome in Ovarian Cancer

Student(s) Devansi Sinha **Grade** 12 **Town** Ridgefield

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

Redding Joel Barlow High School Paul Testa

3004 The Use of Pleurotus Ostreatus As Mycoremediation for Poly-Lactic Acid Plastic In Landfills.

Student(s) Alexis Ogrinz **Grade** 11 **Town** Easton

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
* Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
* Future Sustainability Awards --- High School Finalist - Medallion
* Society for In Vitro Biology --- Certificate and \$25 gift card given by CSEF

Fishers Island Fishers Island School Carol Giles

3009 Exploring Earthworm Ecotypes: Carbon Source or Sink?

Student(s) Lillian Kane **Grade** 12 **Town** Groton

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
* Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
* Future Sustainability Awards --- High School Finalist - Medallion
* Alexion Biotechnology Awards --- 3rd Place- Biotechnology Senior High- \$300 & plaque
* NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF
* University of Connecticut - Early College Experience --- UCONN Early College Experience Program: Life Sciences - Co-Op \$100 Gift Certificate

Ridgefield Ridgefield High School Ryan Gleason

3012 Analysis of regenerated mouse digit tips following modulation of Amphiregulin expression

Student(s) Luke Hisiger **Grade** 12 **Town** Ridgefield

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

Bridgeport Bridgeport Regional Aquaculture Center Mr. Kirk Shadle

3024 Developing an Adhesive Constructed from a Maize starch-based matrix Mixed with Chondrus crispus Carrageenan and Determining the Biodegradability of the Adhesive

Student(s) Matthew Duffy **Grade** 12 **Town** Fairfield

* PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
* CASE • The Jackson Laboratory Urban School Challenge Awards --- 4th Place High School - Plaque, Medallion
* U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF

Greenwich Greenwich High School Andrew Bramante

3025 Low-Pressure Application of Metal Nanoparticles to Soybean Seeds to Provide Increased

Student(s) Uma Pendkar **Grade** 12 **Town** Old Greenwich

* 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
* Future Sustainability Awards --- High School Finalist - Medallion
* Institute of Food Technologists, Nutmeg Section --- \$100 award + invitation to Awards Night Dinner with guest
* TurnKey Compliance Solutions Environmental Awards --- \$300 Cash Award High School- For excellence in environmental sciences
* GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Environmental Project

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

Greenwich Sacred Heart Greenwich Ms. Fei

3043 The Effect of Applied Glucose on Moisture Retention and Growth of Saplings After Simulated Forest Fires.

Student(s) Regina Finn **Grade** 11 **Town** Old Greenwich

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

Canton Canton High School Marsha Jorgensen

3044 Allelopathic Effects of Invasive Species Garlic Mustard (*Alliaria petiolata*) on Germination of Black Eyed Susan (*Rudbeckia hirta*)

Student(s) Lauren Marze **Grade** 9 **Town** Canton

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * U.S. Agency for International Development (USAID) --- Certificate and \$25 gift card given by CSEF
- * Banning Family Life Science Award --- For excellence in invasive species research, \$100 cash

Greenwich Sacred Heart Greenwich Joan Fei

3054 Surveying Adolescent Public Opinion and Knowledge on Nuclear Energy

Student(s) Emma Rose Connolly **Grade** 12 **Town** Yonkers

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

Glastonbury Glastonbury High School Diane Pintavalle

3061 The Role of Alternative Splicing in Metastatic Osteosarcoma

Student(s) Sonia Ghoshal **Grade** 11 **Town** Glastonbury

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

Manchester Manchester High School Wendy Turek

3072 The Effect of Dissolved Flavonoid Supplements on the Chelation of Iron in a Solution

Student(s) Paige Gagnon **Grade** 12 **Town** Manchester

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 2nd Place High School - \$400 and Plaque, Medallion

Darien Darien High School Ting Wang

3073 Identification of Epigenetic Determinants of Zebrafish Pigment Cell Fate.

Student(s) Sophie Xu **Grade** 10 **Town** Darien

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

Woodbridge Amity Regional High School Catherine Piscitelli

3078 Using Deep Learning to Efficiently Quantify the Impact of Road Salt Runoff on the Swim Performance of Wood Frog Tadpoles

Student(s) Mason Zhang **Grade** 12 **Town** Woodbridge

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Environmental Sciences Awards with CACIWC --- 2nd Place HS- \$200, Plaque

Stamford King School Victoria Schulman

3084 Non-Canonical Base Pairing in Self-Assembling DNA Crystals

Student(s) William Bernfeld **Grade** 11 **Town** Stamford

- * 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

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

Stamford King School Victoria Schulman

3088 Feraheme® works synergistically with several ROS-inducing drugs for the treatment of pancreatic adenocarcinoma

Student(s) **Wafa Nomani** **Grade 12** **Town** STAMFORD

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Alexion Biotechnology Awards --- 4th Place- Biotechnology Senior High- plaque

Greenwich Greenwich High School Andrew Bramante

3100 Identification of Irrationality and Risk Preference Variation In Generational Cohorts Using Proposed Risk Scenarios

Student(s) **Adam Kleshchelski** **Grade 10** **Town** Riverside

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

Greenwich Greenwich High School Mr. Andrew Bramante

3111 Prolonged, Smart Treatment of Multi-Drug Resistant Bacteria of Chronic Wounds via an EGCG-AgNP HydroMed Dressing

Student(s) **Yurika Sakai** **Grade 10** **Town** Greenwich

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering Senior High- \$400 & plaque
- * Regeneron Biomedical Science Award --- Certificate & \$500.00 cash

Life Sciences - High School Teams

Redding CT-STEM Catherine Piscitelli

3504 Development of a WatchOS Application that uses HRV and Vibrational Pulses to Reduce Stress

Student(s) **Sheehan Munim** **Grade 10** **Town** Orange

Allen Liu **Grade 10** **Town** Woodbridge

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences Senior High Team- \$500 (split) & Plaque
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion

Suffield Suffield High School Melanie Brown

3507 The Effects of Extra Exposure to Blue Light, due to Distance Learning, on Different Age Groups

Student(s) **Noor Sharaf** **Grade 11** **Town** Suffield

Emma Conway **Grade 9** **Town** Suffield

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

Greenwich Brunswick School Dana Montanez

3514 Regenerating Transformed Plant Cells Expressing Algal Cytochrome c6 to Increase Photosynthetic Yield in Plants

Student(s) **Maximilian Konzerowsky** **Grade 11** **Town** Darien

Ashton Arjomand **Grade 11** **Town** Greenwich

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

Ridgefield Ridgefield High School Patrick Hughes

3510 A Simple Model of guideRNA for CRISPR-Cas9

Student(s) **Claire Griffin** **Grade 12** **Town** Ridgefield

Isabel Voellmicke **Grade 12** **Town** Ridgefield

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

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

Life Sciences - Middle School 7th Grade

Danbury Westside Middle School Academy Jon Neuhausel

2007 The Effect of Bee Box Volume Size on Temperature and Humidity of a Wintering Bee Hive.

Student(s) Luca LaRosa **Grade 7** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences 7th grade- \$200 & plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 3rd Place Middle School - \$100 and plaque, Medallion
- * Alexion Biotechnology Awards --- 4th Place- Biotechnology 7th grade- plaque
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF
- * National Center for Inquiry Learning --- Danielle & Maggie Award for Imagination - MS \$100
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Danbury Westside Middle School Academy Jonathan Neuhausel

2011 The Effect of UV Light on Bacteria From a Horse Blt

Student(s) Sophia Blumenreich **Grade 7** **Town** Danbury

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences 7th grade- \$100 & plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion
- * NYUC Pony Club Equine Award --- \$100 Cash Award or excellence in equine studies
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Bridgeport Multicultural Magnet School Corina Starn

2008 Will it Survive?

Student(s) Stephanie Cuaya **Grade 7** **Town** Bridgeport

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences 7th grade- \$100 & plaque

Life Sciences - Middle School 8th Grade

Riverside Eastern Middle School Ms. Iannacone

2519 Can trust kill? Covid-19 and Social Capital

Student(s) Zara Haque **Grade 8** **Town** Riverside

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences 8th grade- \$300 & plaque
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Life Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Cheshire St. Bridget School Mrs. Michelle Carroll

2508 No To Nanosilver: A Natural Approach to Nanosilver Filtration

Student(s) Nilan Kathir **Grade 8** **Town** Cheshire

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences 8th grade- \$200 & plaque
- * American Meteorological Society --- Certificate & \$25 gift card given by CSEF
- * J.A. Augustine Award --- \$100 for excellence in biology
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Bozrah Fields Memorial School Evelyn Brown

2504 Does personality type correlate to types of emotional responses to the Covid-19 pandemic?

Student(s) Kali Kapilotis **Grade 8** **Town** Bozrah

- * PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences 8th grade- \$100 & plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * American Psychological Association --- Certificate, \$25 gift card given by CSEF

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

Danbury Saint Joseph School Jennifer Reilly

2513 Effectiveness of Whitening Toothpastes

Student(s) Charles Doran **Grade 8** **Town** Danbury

* PepsiCo / Pfizer Life Sciences Awards --- 4th Place- Life Sciences 8th grade- plaque

Hartford Environmental Sciences Magnet School Mrs. Hays

2510 COVID-19's Impact on Water Quality in Recreational Areas Along the Long Island Sound Coastline

Student(s) Isabella D'Agostino **Grade 8** **Town** New Brittan

- * PepsiCo / Pfizer Life Sciences Awards --- 5th Place- Life Sciences 8th grade- plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- Middle School \$300 / plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Environmental Sciences Awards with CACIWC --- 2nd Place MS- \$200, plaque
- * Southeastern New England Marine Educators (SENEME) --- \$100 award and membership in SENEME - 1st Place Junior & T-Shirt
- * Schoepfer Award for Excellence in Local Aquatic Science --- For excellence in a local water quality study, \$100 cash

Hartford Environmental Sciences Magnet School MS. HAYS

2511 Dog- Be Gone- Plastic: An evaluation of dog waste bag materials and biodegradation

Student(s) Patroklos Pitsoulis **Grade 8** **Town** EAST HARTFORD

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 8th grade - CSF Medallion
- * Connecticut Science Supervisors Association --- \$125 for a middle school project

Bridgeport Multicultural Magnet School Corina Starn

2517 Microplastic Concentration in Four Harbor Locations in Fairfield County, CT

Student(s) Sofia Atehortua **Grade 8** **Town** Bridgeport

- * PepsiCo / Pfizer Life Sciences Awards --- Finalist - Life Sciences 8th grade - CSF Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 5th Place Middle School - plaque, Medallion
- * Environmental Sciences Awards with CACIWC --- 3rd Place MS- \$100, plaque
- * 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 Junior

Life Sciences - Middle School Teams

Stamford Bi-Cultural Hebrew Academy Christopher Graseck

1006 Studying Four Climate Change Factors that Impact Plant Growth

Student(s) David Isaacs **Grade 7** **Town** Stamford

Gabriel Haron **Grade 7** **Town** Stamford

- * PepsiCo / Pfizer Life Sciences Awards --- 1st Place- Life Sciences MS Team- \$100 each & plaque
- * Future Sustainability Awards --- 2nd Place Middle School - \$200 Cash and plaque
- * Alexion Biotechnology Awards --- 1st Place- Biotechnology 7th grade- \$300 & plaque
- * NASA EARTH System Science Award --- Certificate and \$25 gift card given by CSEF
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS for 1st - 4th MS winners

Enfield Chiaravalle Academy Mr.Coleman

1004 Agricultural Plants reaction to Climate Change

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

Joella Asapokhai **Grade 8** **Town** South Windsor

Alexandria Croal **Grade 8** **Town** Enfield

- * PepsiCo / Pfizer Life Sciences Awards --- 2nd Place- Life Sciences MS Team- \$100 each
- * Alexion Biotechnology Awards --- 1st Place- Biotechnology 8th grade- \$300 & plaque
- * Ricoh Americas Corporation --- Certificate, \$25 gift card given by CSEF
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

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

Enfield Chiaravalle Academy Timothy Coleman

6008 A Comparison of Three Types of Honey on CO2 Emissions from Yeast Fermentation

Student(s) **Alexander Gumkowski** **Grade 8** **Town** North Haven
Tyler Salisbury **Grade 8** **Town** South Windsor

* PepsiCo / Pfizer Life Sciences Awards --- 3rd Place- Life Sciences MS Team- plaque

Physical Sciences - High School Individual

Greenwich Greenwich High School Andrew Bramante

6058 Design of a MFe2O4/Bentonite/Graphite Coated Polyurethane Sponge for Economical and Eco-Friendly Oil Spill Recovery

Student(s) **Autumn Kim** **Grade 12** **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 1st Place - Physical Sciences Senior High Individual - \$500 & Plaque
- * Stanley Black & Decker Applied Technology Awards --- 3rd Place High School - \$ 200 and Plaque, Medallion
- * Environmental Sciences Awards with CACIWC --- HS Finalist - CSF Medallion
- * Future Sustainability Awards --- High School Finalist - Medallion
- * 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
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- * National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEFF
- * The Goodwin-Niering Center for the Environment --- \$100 for "Excellence in Environmental Conservation Studies"

Greenwich Greenwich High School Andrew Bramante

6040 Increasing Aerofoil Lift via Artificial Amplification of the Coanda Effect using Heat

Student(s) **Timothy Drinkall** **Grade 12** **Town** Old Greenwich

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Individual - \$300 & Plaque
- * 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 card given by ONR
- * American Institute of Aeronautics & Astronautics - Connecticut Section --- \$200 award, certificate
- * Connecticut Association of Physics Teachers --- \$100 Senior project
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Senior Award: Certificate, & teshirt & \$25 Amazon Card from CSEF

Kent Kent School Jesse Klingebiel

6072 Exoskeleton Hand Based on MMG Signals for Partially Paralyzed Patients

Student(s) **Siyi Lu** **Grade 10** **Town** Kent

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences Senior High Individual - \$200 & Plaque
- * IEEE, Connecticut Section --- \$100 Honorable Mention

Greenwich Sacred Heart Greenwich Joan Fei

6041 Testing an Activated Carbon Cloth Filter to Reduce the Prevalence of Phosphates and Nitrates in the Long Island Sound

Student(s) **Abby Barnett** **Grade 11** **Town** Darien

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences Senior High Individual - Plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition
- * University of Hartford Scholarships --- University of Hartford Scholarship- For Excellence in Engineering, or Technology, \$27,000
- * Project Oceanology --- Individual - 1 Ocean Camp slot + T-Shirt & cap, First Place Senior

Trumbull Christian Heritage School Dan Cote

6060 Building a Machine to Test Whether Certain Facemasks Are Protective or Not

Student(s) **Maxwell Barbagallo** **Grade 11** **Town** Sandy Hook

- * Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences Senior High Individual - Plaque
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * American Society of Safety Professionals, CT Valley Chapter --- \$150 grade 9-12 project

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

Guilford Guilford High School Luke Rosnick

6001 Assessing the relationship between COVID-19 prevalence and optimal pool testing size

Student(s) Jerry Li **Grade** 11 **Town** Guilford

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Mu Alpha Theta --- Certificate, \$25 gift card given by CSEF

Ridgefield Ridgefield High School Mr. Gleason

6002 Comparing wood/plastic composite & hemp/PLA composite to natural materials to determine the best moisture resistant bioplastic

Student(s) Samantha McLemore **Grade** 12 **Town** Ridgefield

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

Greenwich Greenwich Academy Dr. Patrick Ashby

6008 Using Fractal Metamaterials with Non-Integer Dimensionality to Manipulate the Propagation of Acoustic Waves

Student(s) Natalie Shell **Grade** 11 **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Raytheon Corporation Awards --- \$500, Plaque

Bridgeport Bridgeport Regional Aquaculture Center Kirk Shadle

6019 Yielding High Value Secondary Products from fossil fuel waste utilizing electrolysis

Student(s) Dylan Steer **Grade** 12 **Town** Stratford

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

Woodbridge Amity Regional High School Catherine Piscitelli

6039 Creating a Smaller and More Portable Vertical Axis Wind Turbine to Increase Accessibility and Usage of Wind Energy Harvesting Devices

Student(s) Brodey Lu **Grade** 11 **Town** Orange

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * American Meteorological Society --- Certificate & \$25 gift card given by CSEF
- * Constellation, an Exelon Company --- 1st: \$150.00 Cash - Grade 9 - 12: For Excellence in clean renewable / sustainable energy
- * 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.
- * MIT Club of Hartford K-12 Initiative
C/O Leon Kaatz; 111 Oak Street; Hartford, CT 06106 --- 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
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

Woodbridge Amity Regional High School Catherine Piscitelli

6057 Designing a Ground Collision Avoidance System to Inhibit Controlled Flight Into Terrain Accidents For Single Engine Aircraft

Student(s) Mason Beaudette **Grade** 11 **Town** Orange

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * U.S. Air Force --- Certificate & \$25 gift card from CSEF
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Wisner Chairman's Award --- \$500 cash & plaque HS
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2020 Invention Convention, May 2

[SchTown] [School] [Teacher]
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New Haven Hopkins School Nathaniel Peters

6076 Developing Tetherless Motion Tracking System for Wandering Insects Using an Omni-directional Servosphere Robot

Student(s) **Nicholas Lee** **Grade 10** **Town** Trumbull

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Mathematics Awards - with ATOMIC --- 2nd Place High School- \$300 and Plaque
- * Computer Science Awards --- 2nd Place High School - \$300, Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Raytheon Corporation Awards --- \$500, Plaque
- * IEEE, Connecticut Section --- \$100 Honorable Mention

Bridgeport Bridgeport Regional Aquaculture Center Mr. Kirk Shadle

6078 Development of a Novel Classification Model to Determine Vegetation Habitability of Exoplanet Atmospheres Via Random Forest Machine Learning Algorithms.

Student(s) **Joseph Gottlieb** **Grade 12** **Town** Stratford

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 5th Place High School - Plaque, Medallion
- * Computer Science Awards --- Senior High Finalist - Medallion
- * Raytheon Corporation Awards --- \$500, Plaque

Physical Sciences - High School Teams

Greenwich Brunswick School Dana Montanez

6501 Recirculating Shower Filtration System: Utilizing Natural, Cost-Efficient, and Effective Materials to Consolidate The Purification of Water

Student(s) **Myles Spiess** **Grade 11** **Town** Old Greenwich

Nicholas Altman **Grade 11** **Town** Mount Kisco

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences Senior High Team- \$500 (split) & Plaque
- * Future Sustainability Awards --- 1st Place High School - Plaque & \$800 Stipend to Compete at GENIUS Olympiad
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * GENIUS Olympiad --- GENIUS Olympiad Competition for 1st Place HS Future Sustainability

Greenwich Brunswick School Dana Montanez

6508 The Development of an Auto-Disable Syringe to Combat the Spread of Bloodborne Diseases via Intravenous Injection Drug Use

Student(s) **Aidan Marks** **Grade 11** **Town** Riverside

Samuel Guadalupe **Grade 11** **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Team- \$300(split) & Plaque
- * Stanley Black & Decker Applied Technology Awards --- 1st Place High School - \$500 and Plaque, Medallion

Ridgefield Ridgefield High School Ryan Gleason

6511 Analyzing the Ability of the SCiO Spectrometer to Detect the Presence of Nutrients in Soil

Student(s) **Megan Dunphy** **Grade 12** **Town** Ridgefield

Kelsi Wilkenloh **Grade 12** **Town** Ridgefield

- * Lockheed Martin Physical Sciences Awards --- 3rd Place - Physical Sciences Senior High Team - Plaque
- * Environmental Sciences Awards with CACIWC --- HS Finalist - CSF Medallion
- * Future Sustainability Awards --- High School Finalist - Medallion

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

Greenwich Brunswick School Dana Montanez

6512 Harnessing and Repurposing Processing Heat Gradient Produced by a Computer to Reduce the Battery Lost to a Cooling Fan

Student(s) **Gregory Kapp** **Grade 11** **Town** Greenwich
Michael Montgomery **Grade 11** **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
- * Stanley Black & Decker Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * John S. Kendall Memorial Awards --- \$500 John S. Kendall Award for Excellence In Mechanical Engineering - High School

Woodbridge Amity Regional High School Catherine Piscitelli

6513 Creating an Optical Fiber Daylighting System for Hydroponics With Raspberry Pi Active Dual Axis Solar Tracking

Student(s) **Philip London** **Grade 12** **Town** Orange
Adarsh Kongani **Grade 12** **Town** Orange

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
- * Future Sustainability Awards --- High School Finalist - Medallion

Greenwich Brunswick School Dana Montanez

6516 An Investigation of Current-Powered, Aquatic Turbines as Alternative Energy Source

Student(s) **Teddy Danforth** **Grade 10** **Town** Greenwich
Trip Williams **Grade 10** **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior Team - CSF Medallion
- * Future Sustainability Awards --- High School Finalist - Medallion
- * Constellation, an Exelon Company --- 2nd: \$100.00 Cash - Grade 9 - 12: For Excellence in clean renewable / sustainable energy

Physical Sciences - Middle School 7th Grade

Avon Talcott Mountain Academy John Pellino

5014 Tennis Ball Disinfectant

Student(s) **Sia Reddy** **Grade 7** **Town** Avon

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences 7th Grade Ind. - \$200 & plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Quinnipiac University Scholarships --- \$20,000, 4 year scholarship (\$5000 per year) to Quinnipiac University for MS Student & \$250 cash
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7th grade - CSF Medallion
- * Samantha Freeman Award for Excellence in Sports Science or Engineering --- For Excellence in Sports Science or Engineering by a Middle School student, \$100 cash
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Cheshire Dodd Middle School Clare Gonzalez

5002 A Covid-19 Social Distancing Device Using a PIR Motion Sensor and a US-100 Ultrasonic Distance Sensor

Student(s) **Suchita Srinivasan** **Grade 7** **Town** Cheshire, CT

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences 7th Grade Ind. - \$100 & plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- Middle Schools- \$100 / plaque
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Computer Science Awards --- 1st Place Middle School - \$300, plaque
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * American Society of Safety Professionals, CT Valley Chapter --- \$100 grade 7-8 project
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * Robert Francoeur Memorial Award --- Creative or innovative project in engineering or computer science by female students - \$200
- * Zepke Awards --- \$100 - For the Best Use of Electronic Circuitry- Middle School
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

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

Bozrah Fields Memorial School Mrs. Brown

5007 Electrical Testing Board For Energy Consumption

Student(s) **Andrew Pagnotta** **Grade 7** **Town** Bozrah

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences 7th Grade Ind. - \$100 & plaque
- * Alternative/Renewable Energy Awards --- 3rd Place Middle School - \$100 Cash and plaque
- * Future Sustainability Awards --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * U.S. Air Force --- Certificate & \$25 gift card from 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.
- * MIT Club of Hartford K-12 Initiative
C/O Leon Kaatz; 111 Oak Street; Hartford, CT 06106 --- For excellence in science & technology of energy related research, middle school, \$100 cash award
- * Susan Lessoff Award for Excellence In Chemistry --- Susan Lessoff Excellence In Chemistry Award -\$100 Cash and Plaque- Middle School
- * Frank J. Link Family Award for Energy Related Research --- Frank J. Link Award for Energy Related Research - \$50

Danbury Westside Middle School Academy Jonathan Neuhausel

5009 Using Snell's Law to Calculate Index of Refraction of Solutions

Student(s) **Sydney Borst** **Grade 7** **Town** Danbury

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences 7th Grade Ind. - plaque
- * Mathematics Awards - with ATOMIC --- 1st Place Middle School- \$300 and Plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 2nd Place Middle School - \$200 and plaque, Medallion
- * Office of Naval Research- U.S. Navy / U.S. Marine Corps --- Middle School- Certificate, \$25 gift card given by CSEF
- * Connecticut College-Physics, Astronomy, & Geophysics Dept. --- Junior Award: Certificate, & teeshirt & \$25 Amazon Card from CSEF
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 7th grader- Project Oceanology's Ocean Camp
- * Demos R Us Award --- \$150 Cash Award-- Clear Execution of Research- 7th Grade
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Pawcatuck St. Michael School Anna-Helene Grossomanides

5008 Remote Learning on a Budget

Student(s) **Joseph Benin** **Grade 7** **Town** Pawcatuck

- * Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences 7th Grade Individual - plaque
- * Stanley Black & Decker Applied Technology Awards --- Middle School Finalist - Medallion
- * Computer Science Awards --- 2nd Place Middle School - \$200, plaque
- * IEEE, Connecticut Section --- \$250 Honors Award -Junior
- * Susan and Stanley Lessoff Memorial Award --- Susan and Stanley Lessoff Memorial Award - \$250 Cash and Plaque MS

Pawcatuck St. Michael School Anna-Helene Grossomanides

5001 Oxidation Proclamation

Student(s) **John Bennett** **Grade 7** **Town** Stonington

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences 7th Grade - CSF Medallion

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

Physical Sciences - Middle School 8th Grade

New Haven Engineering & Science University Magnet School Roger Rushworth

5501 Implementation of Metal-Oxide-Induced Agglomeration and Electromagnetic Filtration for Removal of Microplastics

Student(s) Snigtha Mohanraj **Grade 8** **Town** Ansonia

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences 8th Grade Ind.- \$300 & plaque, invitation to compete in Broadcom Masters
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 1st Place Middle School - \$300 and plaque, Medallion
- * Stanley Black & Decker Applied Technology Awards --- 1st Place Middle School - \$300 and Plaque, Medallion
- * Environmental Sciences Awards with CACIWC --- 1st Place MS - \$300, plaque
- * Future Sustainability Awards --- 3rd Place Middle School - \$100 Cash and plaque
- * 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
- * Connecticut Science Teachers Association's Marty Tafel Student Research Award --- Physical Sciences 8th Grade - \$500 and invite to CSTA Award Banquet
- * Association for Women Geoscientists --- Certificate & \$25 gift card given by CSEF
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Urban School Challenge 1st Place Middle School Awards --- USC Highest Placing 8th grader- Project Oceanology's Ocean Camp
- * TurnKey Compliance Solutions Environmental Awards --- \$200 Cash Award Middle School- For excellence in environmental sciences
- * GENIUS Olympiad --- GENIUS Olympiad Competition for Highest Placing USC 8th grade Project
- * Environmental / Energy Award- Urban Public School Award --- Environmental / Energy Award- Urban Public School Award - \$431.40

Enfield Chiaravalle Academy Mr. Timothy Coleman

5513 Can Diodes Be Used to Reduce the Negative Impacts of Road Salt on Streams?

Student(s) Abigail Quinby **Grade 8** **Town** Windsor

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences 8th Grade Ind. - \$200 & plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Demos R Us Award --- \$200 Cash Award- Clear Execution of Research- 8th Grade
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Bridgeport Interdistrict Discovery Magnet Helena Coatsworth

5508 Crystal Current

Student(s) Arden Mauborgne **Grade 8** **Town** Easton

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences 8th Grade Ind, - \$100 & plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Alternative/Renewable Energy Awards --- 2nd Place Middle School - \$200 Cash and plaque
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Danbury Westside Middle School Academy Jonathan Neuhausel

5511 The Effects of Concentrations of Acetone on the Tensile Strength of Bioplastics

Student(s) Eric Guo **Grade 8** **Town** Danbury

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences 8th Grade Ind. - plaque
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- 3rd Place- Engineering MS \$100 & plaque
- * Alexion Biotechnology Awards --- 5th Place- Biotechnology 8th grade- plaque
- * ASM Materials Education Foundation --- Certificate & \$25 gift card given by CSEF
- * U.S. Metric Association --- Certificate & \$25 gift card given by CSEF

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

Pawcatuck St. Michael School Anna Grossomanides

5509 Are All Masks Equal?

Student(s) **Katelyn Cadmus** **Grade 8** **Town** Pawcatuck

- * Lockheed Martin Physical Sciences Awards --- 5th Place- Physical Sciences 8th Grade Ind. - plaque
- * Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100

Danbury Westside Middle School Academy Walter Mayhew

5504 The Effect of an Insulator with Styrofoam on the Temperature Difference Between Two Pieces of Cardboard

Student(s) **Christopher Tomas Borges** **Grade 8** **Town** Danbury

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences 8th Grade - CSF Medallion
- * CASE • The Jackson Laboratory Urban School Challenge Awards --- 4th Place Middle School - plaque, Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion

Physical Sciences - Middle School Teams

Enfield Chiaravalle Academy Tim Coleman

4003 Toilet Power: Capturing Wasted Energy From Home Fixtures

Student(s) **Lincoln Marshaus** **Grade 8** **Town** Suffield

Chloe Walker **Grade 8** **Town** Somers

Francesca Lamattina **Grade 8** **Town** Somers

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences MS Team- \$100 each & plaque
- * Stanley Black & Decker Applied Technology Awards --- 2nd Place Middle School - \$200 and Plaque, Medallion
- * Future Sustainability Awards --- Middle School Finalist - Medallion
- * American Meteorological Society --- Certificate & \$25 gift card given by CSEF
- * Constellation, an Exelon Company --- 1st: \$100.00 Cash - Grade 7 - 8: For Excellence in clean renewable / sustainable energy
- * Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

Windsor Madina Academy Mr. Timothy Coleman

4005 Self-Sustaining Indoor Garden

Student(s) **Noora Khaled** **Grade 7** **Town** Suffield

Bayan Abed **Grade 7** **Town** Rocky Hill

Zainah Khaliq **Grade 7** **Town** Windsor

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences MS Team- \$100 each & plaque
- * Future Sustainability Awards --- 1st Place Middle School - \$300 Cash and plaque
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology 7th grade- \$100 & plaque

Windsor Madina Academy Mr. Tim Coleman

4006 The Better Solar Panel

Student(s) **Hamza Mhaidat** **Grade 7** **Town** Windsor Locks

Shah Sheikh **Grade 7** **Town** West Hartford

Adam Afolabi **Grade 7** **Town** Windsor

- * Lockheed Martin Physical Sciences Awards --- 3rd Place- Physical Sciences MS Team- plaque

Enfield Chiaravalle Academy Timothy Coleman

4001 The Filtration of Soot and Carbon Molecules From Smoke

Student(s) **Lainey Czerwicz** **Grade 7** **Town** Feeding Hills

Bridget Kelly **Grade 7** **Town** Enfield

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Jr Team - CSF Medallion
- * Future Sustainability Awards --- Middle School Finalist - Medallion

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

Danbury Westside Middle School Academy Jonathan Neuhausel

4002 The Benefits of Debris Deflectors on Preventing Debris Buildup in Culverts

Student(s) **David Thomas** **Grade 8** **Town** Danbury
Cody Zhu **Grade 8** **Town** Danbury

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Jr Team - CSF Medallion
- * Environmental Sciences Awards with CACIWC --- MS Finalist - CSF Medallion
- * Future Sustainability Awards --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering MS- \$200 & plaque
- * Lemelson Early Inventor Award --- Certificate & \$100 cash award from Lemelson Foundation