



# Connecticut Science & Engineering Fair

## Quinnipiac University

March 8 - 20, 2021

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### Final Judging Results

#### Award Legend

Plaque Winners = 1, 2, ...  
 Medalists = m  
 Winners = w

## Collins Aerospace Engineering Awards

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

### Middle School

5015 P7 Secure Stove

Award **1** Student(s) **Elias Starr** Grade 8 Town AVON

- \* Collins Aerospace Engineering Awards --- 1st Place- Engineering Middle School- \$400 & plaque
- \* American Society of Safety Professionals, CT Valley Chapter --- \$100 grade 7-8 project
- \* IEEE, Connecticut Section --- \$100 Honorable Mention
- \* John S. Kendall Memorial Awards --- \$300 John S. Kendall Award for Excellence In Mechanical Engineering - Middle School
- \* Broadcom MASTERS --- Invitation to compete in Broadcom MASTERS

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

Award **2** 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

5511 P8 The Effects of Concentrations of Acetone on the Tensile Strength of Bioplastics

Award **3** 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

5014 P7 Tennis Ball Disinfectant

Award **m** 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 7h 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



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## Collins Aerospace Engineering Awards

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5007 P7 Electrical Testing Board For Energy Consumption  
Award m 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

## High School

3075 LS Colorimetric Smartphone-Based Detection of Salivary SOD2 on Photonic Opal Structures for the Rapid Diagnosis of Hepatocellular Carcinoma  
Award 1 Student(s) Halla Clausi Grade 12 Town Cos Cob

- \* Collins Aerospace Engineering Awards --- 1st Place- Engineering Senior High- \$500 & plaque,

3111 LS Prolonged, Smart Treatment of Multi-Drug Resistant Bacteria of Chronic Wounds via an EGCG-AgNP HydroMed Dressing  
Award 2 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

6063 PS Development of an autonomously driving robot which can remotely scan body temperature to screen for COVID-19  
Award 3 Student(s) Ryan Kim Grade 10 Town Wallingford

- \* Collins Aerospace Engineering Awards --- 3rd Place- Engineering Senior High- \$200 & plaque
- \* Raytheon Corporation Awards --- \$500, Plaque
- \* Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- \* IEEE, Connecticut Section --- \$250 Honors Award -Senior



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## Collins Aerospace Engineering Awards

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 [Proj#] [FCat] [Project Title]

3089 LS Determining the Efficacy of Zingiber Officinale to Promote the Degradation of Bioplastics Through Amylase Hydrolysis  
 Award m Student(s) Sienna Matregrano Grade 12 Town Fairfield

- \* CASE • The Jackson Laboratory Urban School Challenge Awards --- 3rd Place High School - \$ 300 and Plaque, Medallion
- \* Environmental Sciences Awards with CACIWC --- HS Finalist - CSF Medallion
- \* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- \* GENIUS Olympiad --- GENIUS Olympiad Competition for HS Environmental, Energy, Ecology, or Biodiversity Project

6010 PS Two Speed Mechanical BMX Race Gearbox  
 Award m Student(s) Jacob Hatt Grade 10 Town Salem

- \* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- \* Raytheon Corporation Awards --- \$500, Plaque
- \* Samantha Freeman Award for Excellence in Sports Science or Engineering --- For Excellence in Sports Science or Engineering by a High School student, \$150 cash

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

6034 PS Designing a Data-collecting Robotic System to Negate the Effects of Eutrophication  
 Award m Student(s) Ryan Kulsakdinun Grade 10 Town Armonk

- \* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- \* Raytheon Corporation Awards --- \$500, Plaque
- \* Jon Stone Memorial Award --- Jon Stone Award for Innovative Engineering- \$100



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

Award **m** 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

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

Award **m** 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

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

Award **m** 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, & teeshirt & \$25 Amazon Card from CSEF

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

Award **m** 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 ---



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### Collins Aerospace Engineering Awards

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 [Proj#] [FCat] [Project Title]

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

6087 PS The Hat and the Mouse: A Practical Hands-Free Method to Control a Personal Computer  
 Award m Student(s) Payton Noe Grade 10 Town East Lyme

- \* Petit Family Foundation Women in Science & Engineering Awards --- 1st Place- High School \$500 / plaque
- \* Computer Science Awards --- 1st Place High School - \$400, Plaque
- \* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- \* Raytheon Corporation Awards --- \$500, Plaque
- \* Office of Naval Research- U.S. Navy / U.S. Marine Corps --- High School- Certificate, \$75.00 gift card given by ONR
- \* Dreams Unlimited Award --- \$100 Cash Award + Certificate to each student

6037 PS Designing a Novel Social Distancing Device  
 Award m Student(s) Shyam Viswanathan Grade 12 Town Woodbridge

- \* Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- \* Quinnipiac University Scholarships --- \$20,000, 4 year scholarship (\$5000 per year) to Quinnipiac University for HS Student & \$250 cash