



Connecticut Science & Engineering Fair

Quinnipiac University

March 11 - 16, 2019

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

Final Judging Results

Collins Aerospace Engineering Awards

Award Legend

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

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

Middle School

5025 P7 Recovering Energy From an A/C Unit Condenser Exhaust Fan

Award 1 Student(s) Elle Okoney Grade 7 Town Bozrah

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences 7th Grade Ind. - trophy and Invitation Compete in Broadcom MASTERS
- * Applied Technology Awards --- Middle School Finalist - Medallion
- * Alternative/Renewable Energy Awards --- 1st Place Middle School - \$300 Cash and Trophy
- * Future Sustainability Awards --- 1st Place Middle School - \$300 Cash and Trophy
- * Collins Aerospace Engineering Awards --- 1st Place- Engineering Middle School- \$400 & trophy and Invitation Compete in Broadcom MASTERS
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * U.S. Air Force --- Laptop backpack, ear buds, 1 GB flash drive, 4 Port USB hub, certificate
- * National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF
- * The Children's Museum --- 1 family 4-Pack of Admission Passes to the Children's Museum
- * Society of Women Engineers - Hartford Section --- Scientific Calculator
- * Air and Waste Management Association, Connecticut Chapter --- \$100 Junior, Environmental Research, waste recycling related

5011 P7 Remote Control Ceiling Car

Award 2 Student(s) Sofie Brauweiler Grade 7 Town New Canaan

- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering MS- \$200 & trophy and Invitation Compete in Broadcom MASTERS
- * Barker Mohandas Awards for Transportation Research --- \$100 Cash & Plaque for Excellence in Transportation Related Research- Middle School
- * John S. Kendall Memorial Awards --- \$300 John S. Kendall Award for Excellence In Mechanical Engineering - Middle School

5526 P8 Piezo Energy Collection from Quake Vibrations

Award 3 Student(s) Alanna Brady Grade 8 Town Bozrah

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences 8th Grade - CSF Medallion
- * Collins Aerospace Engineering Awards --- 3rd Place- Engineering MS \$100 & trophy and Invitation Compete in Broadcom MASTERS
- * POWER Engineers --- \$200 for " Excellence in Electrical Engineering- emphasis on Power Electronics" - Middle School



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4025	PT	Artificial Pancreas to Regulate Blood Sugar Levels		
Award	m	Student(s) Anchal Bahel	Grade 8	Town Woodbridge
		Nina Carmeli	Grade 8	Town Woodbridge

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences MS Team- \$100 each & trophy, invite to compete Broadcom MASTERS
- * Petit Family Foundation Women in Science & Engineering Awards --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * ISA - International Society for Automation - Ct. Valley Section --- 1st - \$125 award

2531	L8	Improving Fuel Economy		
Award	m	Student(s) David Boudreau Jr	Grade 8	Town Ansonia

- * The Jackson Laboratory Life Sciences Awards --- Finalist - Life Sciences 8th grade - CSF Medallion
- * CASE • PepsiCo Urban School Challenge Awards with IBM --- 2nd Place Middle School - \$200 and Trophy, Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion

5517	P8	Testing Different Nano-Particle Inks as Electrodes in a Sunlight-Seeking. Printed, Bio-Photovoltaic System		
Award	m	Student(s) Maximilien Coisman	Grade 8	Town Danbury

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences 8th Grade - CSF Medallion
- * Computer Science Awards --- Middle School Finalist - Medallion
- * Alternative/Renewable Energy Awards --- 2nd Place Middle School - \$200 Cash and Trophy
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 8th grade - CSF Medallion
- * National Oceanic and Atmospheric Administration --- Certificate and \$25 gift card given by CSEF
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, high school, \$100 cash award

4007	PT	Wind Energy		
Award	m	Student(s) Andrew Cimmino	Grade 8	Town FAIRFIELD
		Joshua Dixon	Grade 8	Town Bridgeport

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Science sJr Team - CSF Medallion
- * Alternative/Renewable Energy Awards --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Ricoh Americas Corporation --- Certificate, \$25 Amazon gift card given by CSEF
- * J.A. Augustine Award --- \$100 for excellence in physical sciences



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1022 LT Building a Pressurized Submersible to Create a Safe and Sustainable Environment for Marine Life Collected in the "Twilight Zone" and Brought Up to the Surface .

Award m Student(s) Lauren Lior Grade 8 Town Fairfield
 Sophie Galaburda Grade 8 Town Westport

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

5003 P7 Mobility Assistance Device for the Visually Impaired

Award m Student(s) Chad Ruggiero Grade 7 Town Greenwich, CT

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences 7th Grade - CSF Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology 7th grade- \$100 & 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

2007 L7 The Articulated Hand

Award m Student(s) Lauren Vossler Grade 7 Town Pawcatuck

- * The Jackson Laboratory Life Sciences Awards --- 5rd Place- Life Sciences 7th grade- trophy
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology 7h grade - CSF Medallion

4028 PT Do Contaminants Effect the Strength of Concrete at Construction Sites?

Award m Student(s) Justin Ho Grade 8 Town Suffield
 Nicholas Sattan Grade 8 Town Suffield

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences MS Team- \$100 each & trophy, invite to compete Broadcom MASTERS
- * CASE • PepsiCo Urban School Challenge Awards with IBM --- Middle School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering Middle School - CSF Medallion
- * Alexion Biotechnology Awards --- 3rd Place- Biotechnology 8th grade- \$200 & trophy and Invitation Compete in Broadcom MASTERS
- * ASM Materials Education Foundation --- Certificate & \$25 gift card given by CSEF
- * Garg Consulting Services Award for Excellence in Construction Engineering --- \$250 cash and plaque



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High School

3007 LS Control of Varroa Destructor Infestation with a Dual-function, Thymol-Emitting Honey Bee Hive

Award 1 Student(s) Raina Jain Grade 11 Town Riverside

- * The Jackson Laboratory Life Sciences Awards --- 1st Place- Life Sciences Senior High- \$500 & Plaque
- * Petit Family Foundation Women in Science & Engineering Awards --- High School Finalist - Medallion
- * Environmental Sciences Awards with CACIWC --- 1st Place HS- \$500, Plaque, CACIWC gifts
- * Collins Aerospace Engineering Awards --- 1st Place- Engineering Senior High- \$500 & plaque,
- * H. Joseph Gerber Award of Excellence presented by the Connecticut Academy of Science and Engineering in partnership with CCAT --- Life Sciences Senior 1st HS- \$1,000, Solid Silver Medal of Excellence, Invite to CASE Annual Mtg
- * Fuss & O'Neill, Inc. --- \$200 Award for Excellence in Alternative/Renewable Energy
- * University of Hartford --- University of Hartford Scholarship- For Excellence in Engineering, Science or Mathematics \$26,000
- * TurnKey Compliance Solutions Environmental Awards --- \$300 Cash Award High School- For excellence in environmental sciences
- * University of New Haven High School Awards in Engineering & Science --- \$100 For High School Project in Environmental Science
- * University of Connecticut Academic Excellence Scholarship --- Academic Excellence Scholarship - \$6,500 a year for four academic years- (\$26,000 total)
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

3030 LS Rapid, Smartphone-Based Diagnosis of Skin Melanoma through Differences in Tumor Cell Thermal Regulation Combined with Diffuse Spectroscopic Analysis

Award 2 Student(s) Melissa Woo Grade 11 Town Riverside

- * The Jackson Laboratory Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Collins Aerospace Engineering Awards --- 2nd Place- Engineering Senior High- \$400 & plaque
- * Alexion Biotechnology Awards --- 1st Place- Biotechnology Senior High- \$1000 & plaque,
- * Lunch with a Patent Attorney --- Lunch with a Patent Attorney

6530 PST Optimizing Archimedian screw geometry to increase the energy conversion efficiency of a micro hydropower plant.

Award 3 Student(s) Devesh Kakkar Grade 11 Town South Windsor
Johnathan Bell Grade 11 Town Glastonbury

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Team- \$300(split) & Plaque
- * CASE • PepsiCo Urban School Challenge Awards with IBM --- 4th Place High School - Plaque, Medallion
- * Collins Aerospace Engineering Awards --- 3rd Place- Engineering Senior High- \$200 & plaque
- * United Technologies Corporation Awards --- \$500 in UTC Common Stock, Plaque, Backpack, and Annual Report
- * Connecticut Association of Physics Teachers --- \$100 Senior project
- * Environmental / Energy Award- New Haven Public School Award --- \$100 Award for top environmental or alternative energy project from a New Haven public school
- * University of New Haven High School Awards in Engineering & Science --- \$100 For High School Project in Engineering: Mechanical



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6079 PS Maximizing Photodynamic Therapy Through Highly Focused Beam of 200 nanometer - 400 nanometer to Promote Cellular Lysis

Award m **Student(s)** Jeremy Garskof **Grade** 12 **Town** Fairfield

- * Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Demos R Us Award --- \$200 Cash Award- Clear Execution of Research- High School

6077 PS The Utilization Of a Miniaturized Wind Turbine to Charge An Electronic Device Using The Wind Produced By Blowing

Award m **Student(s)** Noah Levi **Grade** 10 **Town** Wilton

- * Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2019 Invention Convention, May 4

3053 LS A Rapid, Solar-Powered, Portable Breast Cancer Diagnosis via Salivary CA15-3 Detection.

Award m **Student(s)** Halla Clausi **Grade** 10 **Town** Cos Cob

- * The Jackson Laboratory Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * Future Sustainability Awards --- High School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- 4th Place- Biotechnology Senior High- \$200 & plaque

3058 LS Design of Melittin Encapsulated PLGA Nanoparticles that Cross the Blood-Brain-Barrier to Target (Lipid Simulated) Cancer Cells

Award m **Student(s)** Autumn Kim **Grade** 10 **Town** Greenwich

- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- Finalist - Biotechnology Senior High - CSF Medallion

6036 PS Portable, Simple Filtration of (Modeled) V. cholerae Infected Water using Electrified, Silver-SWCNT Nanostructures within a Sari-Cloth Textile

Award m **Student(s)** Shun Sakai **Grade** 11 **Town** Greenwich

- * Lockheed Martin Physical Sciences Awards --- 4th Place- Physical Sciences Senior High Individual - Plaque
- * Future Sustainability Awards --- High School Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Stockholm Junior Water Prize --- Certificate, \$25 gift card by CSEF, possible advance to further competition



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6048 PS Intuitive Control Algorithm Development of 4WIS/4WID Using A SpaceMouse
 Award m Student(s) Taewook Kim Grade 11 Town Kent

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Computer Science Awards --- Senior High Finalist - 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
- * IEEE, Connecticut Section --- \$250 Honors Award -Senior
- * Robotics And Beyond --- MS- For Excellence in Engineering Design- \$200 for Robotics And Beyond STEM Design Academy in July
- * Barker Mohandas Awards for Transportation Research --- \$200 Cash & Plaque for Excellence in Transportation Related Research- High School

3052 LS Developing a Functional Tracheal Replacement Graft: Studying the Effects of Graft Stiffness on Host Response
 Award m Student(s) Sophie Edelstein Grade 12 Town New Haven

- * The Jackson Laboratory Life Sciences Awards --- Finalist - Life Science Senior High - CSF Medallion
- * CASE • PepsiCo Urban School Challenge Awards with IBM --- 2nd Place High School - \$400 and Plaque, Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Alexion Biotechnology Awards --- 5th Place- Biotechnology Senior High- \$100 & plaque
- * Otero Family Award --- The Otero Family Award; \$200 cash
- * University of New Haven High School Awards in Engineering & Science --- \$100 For High School Project in Biochemistry
- * Connecticut Invention Convention "Next Step Inventors" --- Next Step Inventor Trophy & Invitation to compete at the 2019 Invention Convention, May 4

6090 PS Al(III)-Mediated Ionic Conduction in New Abundant Metakaolin Solid Electrolyte for Safe, Efficient Power Grid Na-Ion Batteries
 Award m Student(s) Alexander Kosyakov Grade 12 Town Riverside

- * Lockheed Martin Physical Sciences Awards --- 2nd Place- Physical Sciences Senior High Individual - \$300 & Plaque
- * Alternative/Renewable Energy Awards --- High School Finalist - 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



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6510 PST Optimization of High-Efficiency Organic-Inorganic Lead Halide Perovskite Solar Cells via a Novel Polycaprolactone Additive Pathway

Award **m** Student(s) **Sirina Prasad** Grade 12 Town Westport
Anisa Prasad Grade 12 Town Westport

- * Lockheed Martin Physical Sciences Awards --- 1st Place- Physical Sciences Senior High Team- \$500 (split) & Plaque
- * Alternative/Renewable Energy Awards --- 1st Place High School - \$500 Cash and Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * U.S. Metric Association --- Certificate & \$25 Amazon gift card given by CSEF
- * IEEE, Connecticut Section --- \$100 Honorable Mention
- * MIT Club of Hartford K-12 Initiative --- For excellence in science & technology of energy related research, middle school, \$100 cash award

6506 PST Effect of varying shape memory alloys on the folding mechanism of a pollination device and the efficiency of the collection and dispersion using electrostatic forces.

Award **m** Student(s) **Gianna Guzzo** Grade 11 Town Suffield
Andrea Lacunza Grade 11 Town Avon

- * Petit Family Foundation Women in Science & Engineering Awards --- 3rd Place- High School- \$150 / plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * ASM Materials Education Foundation --- Certificate & \$25 gift card given by CSEF

6511 PST The Effect of Hydrofoil Design Parameters on Dynamic Behavior and Energy Extraction Efficiency of an Oscillating Hydrofoil Power Generation Unit

Award **m** Student(s) **Christopher Rinaldi** Grade 12 Town Enfield
Abhiram Tirumala Grade 12 Town South Windsor

- * Lockheed Martin Physical Sciences Awards --- 3rd Place - Physical Sciences Senior High Team - Plaque
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Mu Alpha Theta --- Certificate, \$25 gift card given by CSEF

6064 PS Designing and Testing an Aid for the Visually Impaired

Award **m** Student(s) **Shyam Viswanathan** Grade 10 Town Woodbridge

- * Lockheed Martin Physical Sciences Awards --- Finalist - Physical Sciences Senior High - CSF Medallion
- * Applied Technology Awards --- Senior High Finalist - Medallion
- * Collins Aerospace Engineering Awards --- Finalist - Engineering High School - CSF Medallion
- * Zepke Awards --- \$125 - For the Best Use of Electronic Circuitry- Senior High
- * University of New Haven High School Awards in Engineering & Science --- \$100 For High School Project in Engineering: Electrical