



2022 Capital Area Science & Engineering Fair

*March 14-17
Colonial Park Mall, Harrisburg*



Capital Area Science & Engineering Fair

www.casef.org

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*NOTE: Due to the HACC campus closure, the office is not staffed.
Please use alternate contact information.*

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EITC Innovative Educational Program

Email to: director@casef.org



I want to begin with a note of sincere thanks. To say this year has presented some new challenges is an understatement and the continued support of students, parents, teachers, administrators, mentors, judges, and sponsors is the reason we as a board were able to have another successful event in 2022. While a hybrid fair provides a different type of experience, it allowed students to pursue their scientific interests and to build skills that will help them in their future pursuits. CASEF, with the support of many, provided the opportunity for students to share with the judges their passion for their topic and the amazing things they have discovered due to an effort that truly took a village. The ability to take part in this type of experience is invaluable, especially at a time when STEM careers are becoming crucial across many disciplines. Participants build their deductive reasoning and analytical skills as well as their ability to explain their research verbally in a video and in-person interviews. These are skills that will help students to succeed regardless of the career path they select for their future. CASEF provides a unique and challenging platform for students to expand the knowledge they are gaining from their amazing classroom teachers and lets them apply it to solving a problem needed to better society.

CASEF is funded by our partners and sponsors and I ask that you support these businesses and organizations that provide this opportunity for the participating students. There are many avenues available for supporting CASEF from the financial contribution, to serving on a committee, providing a special award or judging the day of the fair. Every one of these is vital to the success of this organization and allows us to continue to serve the students in our 38-county service area. CASEF is the premier STEM experience for the students in Pennsylvania providing prizes and scholarships in excess of \$400,000 as well as the distinction for advancement in state, national, and international competitions.

In closing, I encourage you to support CASEF as a volunteer, financially or as an award provider. We invite you to share the opportunity to invest in our future with individuals, businesses and professional organizations who share our mission. Every year brings new experiences and a fantastic set of projects to the table and I know this year has not been any different. Thank you again to all the parents and teachers who have supported their students in making these projects happen and of course to our partners and contributors who without them the fair would not be possible. I am excited to see where the future will go for many of these students!

Sincerely,

Amy L. Diehl, CASEF Board President - Camp Hill School District

CASEF is proud to be partnered with Harrisburg Area Community College (HACC), The Donald B and Dorothy L Stabler Foundation, Select Medical, Harrisburg University, John Crain Kunkel Foundation, Penn State College of Medicine, Hershey Foods, & UGI Utilities. We are supported by the following community-minded businesses: Colonial Park Mall, Penn State Harrisburg, Baker Tilly Virchow Krause, LLP, GANCOM/Gannett Fleming, JLG/Jerr-Dan, Foundation for Enhancing Communities, abc27 Good Day PA, Patentplaques.com & Sheetz

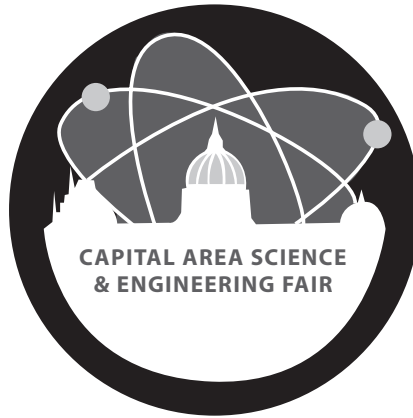
CASEF wishes to thank ABC 27 News for their support. For many years, Brett Thackara has championed the youth of central PA by serving as the emcee for the award ceremonies. Brett, along with Good Day PA! continued that support by broadcasting the 2022 grand champion award announcement. Thank you for showcasing our award winners!



Good Day PA is Central PA's only local lifestyle show. It airs weekdays on abc27 from 10-11am and features hosts Amy Kehm and Brett Thackara. Good Day PA features fun segments, guests, and cooking demonstrations. It has helped local businesses during the pandemic as some have re-invented themselves and others want to reach a wide audience reminding people they are still available to serve. Local authors, bands, chefs, restaurants, students, and other business find themselves at home on Good Day PA. Viewers get to relax during a fun-filled hour of television as they listen to music, learn new recipes and crafts, and welcome the hosts into their homes each day. It's always a Good Day PA on abc27 and especially so in the morning. Tune in and enjoy everything local Central PA has to offer!

The Senior High Grand Champions are being honored by **The Donald B. and Dorothy L. Stabler Foundation** and **Select Medial** providing the scholarship funding for participation in the International Science and Engineering Fair- May 13 to 17, 2022. **UGI, Utilities, Inc.** provides the individual award medals, Junior Grand Champion awards are sponsored by **Sheetz** and the Senior Scholarships and Category Awards are also sponsored by:





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- Valerie Knowles –Fair Director

LOCAL AND REGIONAL SPECIAL AWARD SPONSORS

American Chemical Society, Southeastern PA Section	National Geographic Award
American Highway Engineers Association Harrisburg Section	NASA EARTH System Science Award
American Institute of Chemical Engineers Susquehanna Section	National Oceanic and Atmospheric Administration
American Meteorological Society	Office of Naval Research- U S Navy and Marine Corps
American Psychological Association	Outstanding Biology Award Outstanding Botany Award
American Society of Civil Engineers, Central PA Section (ASCE)	PA Society of Professional Engineers
Appalachian Audubon Society	Penn State College of Medicine Award PSEA Retired
ASM Materials Education Foundation	Regeneron Biomedical Award
Association for Women Geoscientists	Rotary Club of Harrisburg
Biogenius	Stephen F Spector Award
Broadcom MASTERS – Middle School	Susquehanna Section Institute of Electrical and Electronic Engineers (IEEE)
CASEF Category Awards	Sustainable Energy Fund
Conodoguinet Creek Watershed Association	Thomas M McAuliffe Memorial Award
Dauphin County Conservation District	Regeneron Science Talent Search Ricoh USA, Inc.
Dauphin County Medical Society Alliance	Society for In Vitro Biology
Dr. George Love Judge's Award	Stockholm Junior Water Prize
Environmental Protection Agency	U.S. Agency for International Development (USAID)
Farzin Charitabale Fund of PA - Bright Mind Award	U.S. Air Force
Harrisburg Chapter of the PA Society for Professional Engineers	U.S. Metric Association UGI Utilites
Harrisburg University of Science and Technology Scholarship	Wegmans
JLG	Women's Transportation Seminar, Central PA Chapter
Lemelson Young Inventor's Award	Yale Science and Engineering Association
Modjeski and Masters, Inc. Engineering Award	Zoo America North American Wildlife Park
MU Alpha Theta	

The CASEF Story

The Capital Area Science and Engineering Fair (CASEF) began in 1957 with a lesson in character. Dr. Thomas Bowman Jr., a local physician started the fair to teach his 12-year-old son, Tom, a lesson. His son considered himself “the smartest person around.” Dr. Bowman took him to see the Westinghouse Talent Search (now the INTEL sponsored International Science and Engineering Fair) exhibit in Washington D.C. After viewing the displays, Tom admitted, “Dad, there are some people smarter than I am.” This was enough to convince Dr. Bowman of the importance of science fairs and coordinated with the National Science Fair (now Science for Society and the Public) to establish a local affiliated fair. With the sponsorship of the Patriot-News Co., the first local fair was held at the Zembo Mosque. The Patriot- News sponsored the fair until 2008. With the guidance of Dr. Madlyn L. Hanes, Vice President for Commonwealth Campuses and Executive Chancellor, PSU and continued support of Dr. Michael Hanes, President Emeritus, Whitaker Center for Science and the Arts a partnership of several higher education institutions and industry was formed to sponsor the organization as it transitioned into the current Capital Area Science and Engineering Fair. With the support of Harrisburg Campus Dean, Jennie Baar, HACC became the new home for CASEF in 2018.

CASEF has been an annual event in the Harrisburg area for more than 60 years. Science education opportunities offered through CASEF help students develop research methods, hone problem-solving skills, and refine both visual and oral presentation techniques through fair preparation and experience. All public and private schools in our 41-county service area are eligible to register to participate in The Capital Area Science and Engineering Fair (CASEF). Senior division grand champions advance to compete in the Intel® International Science and Engineering Fair® (Intel ISEF); the highest scoring projects of the junior division enter the Broadcom® MASTERS® competition. Students attending these prestigious competitions from the Capital Area have had remarkable success and recognition.

These accolades are only possible through the generous financial resources provided to CASEF by partners and sponsors. In 2018, CASEF became a PA EITC Innovative Educational Program. Donations received through this program qualify for income tax credit. CASEF, a registered 501(c)(3), donations also qualify as federal tax deductions.

We also acknowledge the countless hours of guidance and support from parents and teachers and appreciate the many local businesses and organizations who encourage the student participants by providing judges for the fair and special awards for outstanding projects.

MISSION STATEMENT: Our Mission is to inspire a greater interest in STEM (Science Technology Engineering Math) studies and encourage students to conduct creative research with the opportunity to present their projects for evaluation by the professional STEM community.

VISION: The Capital Area Science and Engineering Fair will become the venue to connect bright and motivated young scientists with this region’s industry, academia and professional organizations to promote economic development within Central Pennsylvania. Introducing students to the science and technology opportunities within our region will facilitate the cultivation and retention of a tremendous resource – our youth.

COVID-19 Statement: ***Recent events confirm that it is very evident that we need to be encouraging young scientists to find solutions to life’s greatest challenges and prepare a healthy and sustainable future. Our fair looked a little different as we converted to a hybrid format for 2022 which included both virtual and in-person judging. We are very appreciative for the use of the facilities at the Colonial Park Mall/KRIG. CASEF will continue to be mindful of the stewardship responsibilities to our partners, sponsors and donors.***

Special Thanks

CASEF depends on the generous donation of time from our judges and their employers. Without their support CASEF would not be able to provide this opportunity to area science students.

We appreciate your dedication and support!

CASEF sincerely appreciates The Colonial Park Mall Realty Holding, LLC Kohan Retail Investment Group, Chriss Restagno, Manager and the staff members who have helped make this event happen, for use of its facilities and excellent support of CASEF.

We also want to recognize the volunteers who gave many hours of their time to make this fair happen. Our board members who give countless hours throughout the year to make the fair possible.

We also want to acknowledge the teachers and mentors whose many hours of paperwork and tireless support do not go unnoticed.

90 Th THORIUM	47 Ag SILVER	7 N NITROGEN	19 K POTASSIUM	39 Y YTTRIUM	8 O OXYGEN	92 U URANIUM
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Capital Area Science and Engineering Fair Grand Champions

1958	Sandra Suter Jackson	Lebanon	1993	Melissa Manni	Bishop McDevitt
1958	David Hibner	William Penn	1994	Melissa Manni	Bishop McDevitt
1959	Sheila Forst Ruog	Bishop McDevitt	1994	Donald Kim	Central Dauphin
1959	Dandridge Tomalin	Camp Hill	1995	Christopher Hammond	Bishop McDevitt
1960	Dr. Karen Silver Brown	William Penn	1996	Anthony Cook	Bishop McDevitt
1960	Eugene Diveglia	Central Dauphin	1996	Eric Powers	Bishop McDevitt
1961	Dr. Ann Stuart Moore	Camp Hill	1997	Andrew Stevenson	Susquenita
1961	Allen Burstiner	Cedar Cliff	1997	Agustine Nguyen	Bishop McDevitt
1962	Carol Stricker Dost	Central Dauphin	1998	Andrew Stevenson	Susquenita
1962	Andrew Hatfield	Carlisle	1998	Melanie Stock	Cumberland Valley
1963	Dr. Jill Sunday Bartoli	Cumberland Valley	1999	Bryan Roberts	Carlisle
1963	Dr. Chester Kessler	Lebanon	1999	Sarah Ballard	Hershey
1964	Frances Hefelfinger Russell	Carlisle	2000	Tatia Engelmores	Mechanicsburg
1964	Paul Kaplan	Lebanon	2000	Benjamin Slavin	Cedar Crest
1965	Lorraine Butler Noon	John Harris	2001	Lisa Nguyen	Bishop McDevitt
1965	Dr. Frank Rudy	Susquehanna Twp	2001	Megan Roberts	Carlisle
1966	Dr. Frank Rudy	Susquehanna Twp	2002	Megan Roberts	Carlisle
1966	Pamela Sprenkle	Dallastown	2002	Cody Kemble	Central Dauphin
1967	Pamela Sprenkle	Dallastown	2003	John Thielmann	Cumberland Valley
1967	Dr. Robert Mitchell	William Penn	2003	Megan Roberts	Carlisle
1968	Dr. Robert Mitchell	William Penn	2004	Benjamin Frison	Carlisle
1968	Patricia Smith Lyford	Lebanon	2004	John Thielmann	Cumberland Valley
1969	Karen Macko	Bishop McDevitt	2005	Ian Johnson	Susquenita
1969	Dr. Galen Weitkamp	Dallastown	2005	Benjamin Frison	Carlisle
1970	Carol Vitz Wells	Dallastown	2006	Michah Toll	Cedar Crest
1970	Dr. Kevin Boran	Nativity BVM	2006	Eli Rosenwasser	Hershey
1971	Barbara Hobbs	Nativity BVM	2007	Michah Toll	Cedar Crest
1971	James Wood	Gettysburg	2007	Rachel Siegel	Cedar Crest
1972	Patricia Huddleston	York Catholic	2008	Mugisha Niyibizi	Hershey
1972	Wayne Downey	Bishop McDevitt	2008	Brad Williams	Bishop McDevitt
1973	Wayne Downey	Bishop McDevitt	2009	Felix Nguyen	Hershey
1973	Deborah Bix Raybuck	Carlisle	2009	Natalie Nguyen	Hershey
1974	Karl Klett	Lebanon	2010	Benjamin Bauchwitz	Hershey
1974	Mara Baird	Cumberland Valley	2010	Tongji Li	Hershey
1975	Mara Baird	Cumberland Valley	2011	Austin Hess	Mechanicsburg
1975	Hoon Won	Cumberland Valley	2011	Benjamin Bauchwitz	Hershey
1976	Paul Sealover	South Western	2011	Felix Nguyen	Hershey
1976	Peter Weaver	Dallastown	2012	Bradley Sloop	Susquenita
1977	Dr. Robert Canby	Carlisle	2012	Anke Wang	Hershey
1977	Dr. James Thomas	South Western	2013	Patrick Myers	Carlisle
1978	Mark Harmon	Carlisle	2013	Hannah Wastick	Palmyra
1978	Harley Hartman	Dallastown	2013	Bradley Sloop	Susquenita
1979	William Kulp	Dallastown	2014	Grace Hwang	Hershey
1980	Arthur Wildasin	South Western	2014	Nancy Wang	Hershey
1980	Lance Williams	Dallastown	2014	Patrick Myers	Carlisle
1981	Lance Williams	Dallastown	2015	Grace Hwang	Hershey
1981	Andrew Seville	Dallastown	2015	Agustey Mongia	Hershey
1982	Steve Stauffer	Dallastown	2015	Connor Lewis	Mechanicsburg
1982	John Hegarty	Bishop McDevitt	2016	Pia Alderman	Trinity
1983	Ray Markey, Jr	Dallastown	2016	Alan Hwang	Hershey
1983	Allison Morgan	Bishop McDevitt	2016	Wesley Sheker	Harrisburg Academy
1984	Donald Pealer	Cumberland Valley	2017	Kaitlyn Galliher	Susquenita
1984	Jonathan Dworkin	Hershey	2017	Michael Miller	Hershey
1985	Jonathan Dworkin	Hershey	2017	Alan Hwang	Hershey
1985	Dr. David Egolf	Carlisle	2018	April Pivonka	Camp
1986	Dr. David Egolf	Carlisle	2018	Alec Warren	Harrisburg Academy
1986	Capt. Brian Miller	Carlisle	2018	Zoe Timothy	Susquenita
1987	Nathan Motich	Northern York	2018	Wyatt Howe	Hershey
1987	Jason Sheehan	Carlisle	2019	Adele Shirmer	West Perry
1988	David Sanders	Carlisle	2019	Dev Lochan	Cumberland Valley
1988	Raymond Meng	East Pennsboro	2019	Christian Gasdaska	Susquenita
1989	Raymond Meng	East Pennsboro	2019	Liam Douglas/Alec Warren	Harrisburg Academy
1989	Laurie Kostelec	Bishop McDevitt	2020	Danielle Miller	East Pennsboro
1990	Raymond Meng	East Pennsboro	2020	Dev Lochan	Cumberland Valley
1990	David Smith	Bishop McDevitt	2020	Taylor Koda	Hershey
1991	Cindy Meng	East Pennsboro	2021	Aditya Kendra	Cumberland Valley
1991	Tippony Scott	Carlisle	2021	Dev Loch	Cumberland Valley
1992	Tippony Scott	Carlisle	2021	Samuel Koda	Hershey HS
1992	Jessica Stoner	Susquenita	2022	Sadie Zehner	Berwick HS
1993	Donald Kim	Central Dauphin	2022	Ian Lentz	Camp Hill HS

Thank you 2022 Judges!

Ms. Tracy Aichele
Mrs. Kathryn Armstrong
Ms. Jennifer Armstrong
Ms. Kathryn Barker
Ms. Lisa Beatty
Ms. Sarah Beeghley
Mr. Justin Bichler
Mrs. Susan Boling
Dr. Janine Borofka
Dr. Tricia Britton
Mrs. Mary Cambria
Mrs. Heather Castle
Mrs. Jessica Cordaro
Ms. Julie Crum
Mrs. Amy Diehl
Mr. Curtis Eichelberger
Dr. Osama Elzamzamy
Mrs. Rachel Farzin
Mr. Alan Flenner
Mr. Mike Floreck
Dr. Rachel Fogle
Mr. Glen Foster
Mrs. Susan Gaughan
Dr. Reema Goel
Mr. Todd Gunther
Ms. Christi Hadden
Mrs. Melanie Hensel
Ms. Alana Hicks
Mr. David Hrobuchak
Dr. Jenelle Izer
Mrs. Tracey Jefferson
Mr. Sherry Kelley
Mr. Gregory Kincheloe
Ms. Carli King
Ms. Jennifer Klemunes
Dr. Simon Lacey
Ms. Christina Lauver
Ms. Menglu Liang
Ms. Antonette (Toni) Markowski
Ms. Jessica McGuire

Mr. Grant Melville
Mr. Rajesh Natarajan
Mrs. Victoria Neboga
Mr. Robert Parker
Dr. M Pattarkine
Mrs. Linda Piscioneri
Dr. Shobha Potlakayala
Dr. William Prescott
Dr. Indira Purushothaman
Dr. Mohammad Asif Raza
Dr. Alexis Reedy-Cooper
Mr. Richard Riter
Mrs. Betsy Riter
Mr. Kushal Saha
Dr. Asha Sahu
Dr. Reham Saleh
Mr. Jim Sarver
Mr. Steve Shirmer
Mr. Matthew Shrader
Mrs. Lakshmi Shrikantia
Mrs. Alison Shuler
Dr. Ilya Shvartsman
Mr. Jeffrey Smith
Ms. Alicia Snyder
Mr. Mitch Spear
Ms. Aura Stauffer
Ms. Julianne Stile
Dr. Fariborz Tavangarian
Ms. Lauren Taylor
Ms. Sharon Thomas
Mrs. Allison Thumma
Dr. Fang Tian
Mrs. Michelle Vera
Mrs. Desiree Weaver
Mr. Chuck Wehinger
Mr. Xingran Weng
Mr. Benjamin Wiker
Mr. Matthew Williard
Mr. Dennis Wilson
Mr. Marilyn Zenko

2022 Participating Schools and Sponsors

CASEF acknowledges the extra time and effort it takes to mentor students through the science fair process and complete the seemingly endless paperwork. Thank you for making science fair a valuable part of your students' education.

Berwick HS

Matthew Shrader

Bishop McDevitt High School

Rebecca Lowe

Michelle Corringan

Camp Hill Schools

Amy Diehl

Carlisle Area High School

Samantha Moyer

Cumberland Valley – Mountain View

Heather Castle

Cumberland Valley High School

Mike Floreck

Greenwood MS/HS

Jonathan Everett

Halifax Area High School

Jessica McGuire

Harrisburg Academy

Lakshmi Shrikantia

Hershey High School

Jason Ambler

Jason Sibbach

Hershey Middle School

Kaitlyn Roberts

Holy Name of Jesus

Sarah Beeghley

Immaculata Home School Academy

Sarah Heil

Mechanicsburg MS

Elizabeth Morrison

Middletown Area High School

Tiffany Lewis

Middletown Area Middle School

Trevor Davis

Silver Academy

Susan Gaughan

St. Margaret Mary

Faith Peluso

St. Theresa School

Michelle Banks

Kerri Rapp

Susquehanna Township MS

Desiree Weaver

Susquenita High School

Steve Shirmer

Susquenita Middle School

Beth Johnson

Trinity High School

Nicholas Sansone

JUNIOR DIVISION

Chemistry

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
JR-CHMS-001	Rachita Bandi	How Does Temperature Affect How Quickly Tylenol Dissolves?
JR-CHMS-002	Piper Butina	Effect of Heat on Lip Balm Smearability
JR-CHMS-003	Elizabeth Crawford	Cup of Joe or Cup of No?
JR-CHMS-004	Willow Dinh	What is the Best Way to Purify Water?
JR-CHMS-005	Sarah Frey	Graffiti: What is the Best Way to Remove It?
JR-CHMS-006	Rebecca Garner	The Effect of Different Baking Sheets on the Rate of Burning Cookies
JR-CHMS-007	Shriyan Kapa	Which Metals Are Most Resistant To Corrosion
JR-CHMS-008	Angel Mathews	The Juice Ball Spherification Experiment
JR-CHMS2-009	David Owens	Different Burn Times of Wood
JR-CHMS2-010	Meital Pavolotzky Szuster	What Makes Bread Rise the Most?
JR-CHMS2-011	Amit Peiffer	Which Brand of Battery Lasts the Longest?
JR-CHMS2-013	Yaakov Reid	Power Of Citrus
JR-CHMS2-014	Cecilia Richwine	What Sealant Protects the Best Against Acid Rain?
JR-CHMS2-015	Katelyn Roadcap	Oh Look, A Penny
JR-CHMS3-016	Roger Wehr	Effect of pH on Water Ways
JR-CHMS3-017	Maria Scherr	What Type of Drug Store Mascara is the Most Smudge Proof?
JR-CHMS3-018	Abraham Schertz	Measuring Electrolytes
JR-CHMS3-019-T	Stacy Nguyen	Cool Your Temper!
JR-CHMS3-019-T	Claire Skehan	Cool Your Temper!
JR-CHMS3-020	Nadav Sofian	Conductivity of Water
JR-CHMS3-021	Levi Shope	Glowing Water
JR-CHMS3-022	Michael Collins	Nutrition Ambition

Life Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
JR-LIFE-001	Jesse Bates	Carbon Dioxide Effects on Plants
JR-LIFE-002	Denisha Dahal	Cool or Warm: Butterfly Preference
JR-LIFE-003	Shaunak DALAL	Effect of Acids on the Pulvinus Closure Dynamics of the Venus Fly Trap
JR-LIFE-004	Skylynn Daughenbaugh	Optimal Soil Additives For Aloe Plants
JR-LIFE-005	Alana Duncan	How Does Air Temperature Affect Water Depth?
JR-LIFE-006	Audrey Dunlop	Exposing Daphnia To Energy Drinks
JR-LIFE-008	Hana Gimble	Effects of Hydrogen Peroxide on Seed Germination and Pplant Cuttings
JR-LIFE2-009	Garroth Godfrey	How Do Greenhouse Gases Affect Climate?
JR-LIFE2-010	Liliana Hathaway	How Do Different Chemical Fertilizers Affect Algae Growth?
JR-LIFE2-011	Rowan Keiter	Analyzing Generational Fingerprints
JR-LIFE2-012	William Klos	The Effect of Dissolved Carbon Dioxide on Daphnia Heart Rate
JR-LIFE2-013	Ainesh Paul	Gene-Interaction Impact on Pro-Environmental Decision Making
JR-LIFE2-014	Ava Sansom	How Do Different Types of Fertilizers Affect Roma Bean Abundance
JR-LIFE2-015	Elizabeth Tunks	Forever Flowers
JR-LIFE2-016	Sierra Yingling	Will Plants Grow in Masked Soil?

Medicine and Health Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
JR-MEHE-002	Amare Johnson	Can Caffeine Make You A Speed-Typing Machine?

Physical Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
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Social and Behavioral Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
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JR-SOBE-001	Theresa Foreman	Gender's Effect On Left Or Right Brain Dominance
JR-SOBE-002	Khalanna Hadley	Color Preference Amongst Teens
JR-SOBE-003	Ariella Jackson	How Do Warped Words Effect the Stroop Effect?
JR-SOBE-004	Deena Korlewitz	Does Music Affect our Concentration?
JR-SOBE-006	Stephanie Pham	Crumble Cookie
JR-SOBE-007	Ryma Saha	How Does Online Testing Affect Student Performance?
JR-SOBE-008	Ava Rooney	Can Time Limits Create Stress?

Technology, Engineering, and Mathematics

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
JR-TEEM-001	Ryan Chingakham	Are Peltier Devices the Future?
JR-TEEM-002	Eva Foster	The Carbon Impact: How Carbon Affects How Far the Ball Travels
JR-TEEM-003	Arman Kazi	Application of Drone Surveillance in Disaster Rescue Operations
JR-TEEM-004	Reese Kimmel	Which Programming Language is the Fastest?
JR-TEEM-005	Ben Wierzbicki	Rocket Dynamics
JR-TEEM-006	Rashi Patel	A Cost Effective Chest Compression Machine for CPR

SENIOR DIVISION

Chemistry

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-CHMS-024	Gwyneth Parthemore	Flesh Eating Acids
SR-CHMS-025	Adrija Rambhatla	The Effects of Various Glucose Concentration on Optical Activity
SR-CHMS-026	Ashleigh Rogers	Antacid and Uncle Heartburn
SR-CHMS-027	Christine Tang	The Effect of Humectants on Preserving Moisture in Cupcakes
SR-CHMS-028	Brodie Woodard	The Effect of Vegetable Oil in Biodiesel
SR-CHMS-029	Gianna Zanolini	Where are the Most Ions?
SR-CHMS-030	Elizabeth Aichele	Investigating Permanent Sunscreen Stains on Eastman Tritan

Life Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-LIFE-018-T	Aidan Callahan	A Comparison of Eco-Friendly and Green Products
SR-LIFE-018-T	Annabel Hathaway	A Comparison of Eco-Friendly and Green Products
SR-LIFE-019	Bindu Chunduri	The Effect of Acid Rain on the Germination of Seeds
SR-LIFE-020	Samantha Duncan	How Do Different Liquids Affect Rehydration
SR-LIFE-021	Alayna Kelly	Strong Produce
SR-LIFE-022	Samuel Koda	How Do Spotted Lantern Flies Migrate?
SR-LIFE-023	Alyssa Goodling	The Effect of Egg Turning Type on Incubation Success
SR-LIFE-024	Elizabeth Howard	Safety And Efficacy Of Various Density DIY Smoke Filters
SR-LIFE-025	Gretta Moore	The Potentials of Greywater as an Irrigator and Nutrient Supply
SR-LIFE2-026	Anna Lentz	Permethrin Proof
SR-LIFE2-027	Jasleen Mann	Enzyme Specificity
SR-LIFE2-028	Isabella Mirarchi	Effect of Fertilizer on Plants and the Environment
SR-LIFE2-029	Sadie Zehner	Aquaponics
SR-LIFE2-030	Alice Benavides	Local Waters and Chemical Contamination
SR-LIFE2-031	Ian Lentz	Spot The Predator
SR-LIFE2-032	Margot Kuller	The Effect of Music on Plants

Medicine and Health Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-MEHE-006	Juliana Silber	Do Genetic Mutations Cause Patients to Response to the Same Drugs?
SR-MEHE-007	Sophia Guerriero	Athletic Performance Study
SR-MEHE-008	Jaida Geiser	Effects of Nitrates on Athletes Performance
SR-MEHE-009	Violet Foley	Food for Thought
SR-MEHE-010	Matthew Everett	School's Air Circulation Effectiveness

Physical Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-PHYS-014	Madeline Galvin	Nanotechnology: The Smaller The Stronger
SR-PHYS-015	Isaiah Houssou	Atmospheric Impacts of Novel H2O Absorption Cross-Sections on Mars
SR-PHYS-016	Olivia Long	Effects of Obstructions on Solar Collection
SR-PHYS-017	Deepti Rao	Effects of Turbine Design on Voltage Produced
SR-PHYS-018-T	Marina Pugliese	Passive Solar Buildings
SR-PHYS-018-T	Morgan Stonesifer	Passive Solar Buildings
SR-PHYS-020	Tucker Wise	What Density Lure Will Create the Most Side-to-Side Movement?

Social and Behavioral Sciences

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-SOBE-009-T	Kenneth Nguyen	Cards Against Memory
SR-SOBE-009-T	Andy Zhang	Cards Against Memory
SR-SOBE-010	Doron Yospa	Why Play Your Sport?
SR-SOBE-011	Isaac Burd	Differentiation Between Duchenne and non-Duchenne Smiles
SR-SOBE-012	Kharece Ogunnaike	Power of Words: Sociolinguistic Phenomenon of the Gender Paradox
SR-SOBE-013	Nora Klapkowski	Political Party Impact o Perception of Governmental Actions
SR-SOBE-014	Sophia Jezewski	Picture Perfect
SR-SOBE-016	Faryal Aziz	Remote Learning vs In-Person Learning
SR-SOBE-017-T	Tristan Handley	Student Involvement: More Stress or More Organization?
SR-SOBE-017-T	Ashley Rusnov	Student Involvement: More Stress or More Organization?

Technology, Engineering, and Mathematics

<i>PROJECT #</i>	<i>Student</i>	<i>Project Title</i>
SR-TEEM-007	Max Behfar	Effect of Paper Airplane Design on Flight Distance
SR-TEEM-008	Anshi Paul	Designing a Braille-Based Communication Interface for the Deafblind
SR-TEEM-010	Jason Weller	The Efficiency of Magnetic Gear Configurations
SR-TEEM-012	Prathum Arikeri	Translating Various Sign Languages on a Character Level
SR-TEEM-013-T	Mya Tobias	Predicting the Swing State Winners in the 2022 Senate Midterms
SR-TEEM-013-T	Ryley Wilhelm	Predicting the Swing State Winners in the 2022 Senate Midterms
SR-TEEM-014	Michael Singley	Making an Impression with Compression: An Air-powered Motorbike

Dr. Laura Johnson Hummell Educator Award



Dr. Laura Johnson Hummell was a Technology and Engineering Education Advisor for the Pennsylvania Department of Education and a member of the CASEF Board of Directors. She passed away December 8, 2018 as a result of injuries sustained in a pedestrian hit and run accident. Laura was a passionate educator and lifelong learner. On her International Technology and Engineering Educators Association (ITEEA) profile, Hummel cited a quote from William Butler Yeats: "Education is not the filling of a pail, but the lighting of a fire." She said the quote had a special place in her life and it guided her approach to teaching. "I often learned the most from those teachers, who helped me find my path and passion, rather than lecturing or berating me," she wrote. She also added, "Over the years, I have worked to become the kind of teacher who inspires my students and leads by example." CASEF would like to honor Dr. Hummell by presenting a cash award to one of our teachers who has been a supporter STEM education through participation in CASEF and exemplifies these ideals.

2019 Recipients: Beth Johnson, Susquenita Middle School

Kathy Becker, Susquenita High School

2020 Recipients: Susan Gaughan, Silver School

Jason Sibbach, Hershey HS

2021 Recipients: Jonathan Everett, Greenwood MS/HS

Jason Ambler, Hershey HS

2022 Recipients: Amy Diehl, Camp Hill HS

Kaitlyn Robers, Hersey MS



Inform. Educate. Inspire.



CASEF is affiliated with the International Science and Engineering Fair, a program of Society for Science and the Public. The senior division grand champions will be participating in the international fair May 9-13 both virtually and in Atlanta, GA



Junior Division Finalists qualify for BroadcomMASTERS.

Congratulations to our recent semifinalists (top 5% of over 6000 entries):

2014 Joshua Silverman – Eagle View Middle School, Cumberland Valley Schools

2015 Kimberly Dudding - St. Joseph School, Mechanicsburg

2016 – Zachary Yaninek – Good Shepherd School, Camp Hill

2017 – Melanie Uroda - St. Theresa School

Alexander Seman - Harrisburg Academy

Adam Warren - St. Joseph School, Mechanicsburg

2020 – Anushi Patel – Hershey MS

2021 – Jackson Kane, St. Theresa School

Niharika Shukla, Mountain View, Cumberland Schools

Check our website for more information and follow us on Facebook for updates!

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Facebook page: *Capital-Area-Science-Engineering-Fair-Casef*



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SPECIAL AWARDS

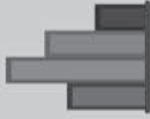
Listed in program and provider invited to present award at ceremony.



Capital Area Science and Engineering Fair Impact

Hybrid Fair with limited participation due to school COVID19 Restrictions

197



Total number of scholarships offered to 2022 presenters from partner organizations totalling

\$402,550

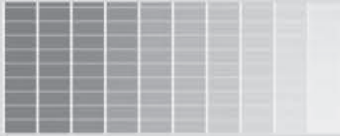
342



Total number of special awards given by 64 scientific, professional, industrial, educational and governmental organizations.

124

Total number of 7-12 grade students who qualified to participate in the CASEF regional fair.



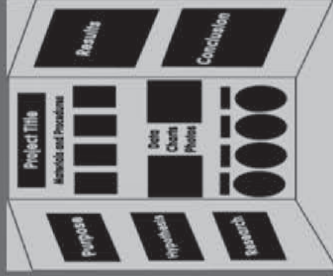
38



Total number of counties serviced by CASEF. All public and private school students are eligible to participate in the 2022 fair.

116

Total number of independent and team projects entered into the 2022 Capital Area Science and Engineering Fair.



2 Number of CASEF students presenting at the 2019 International Science and Engineering Fair.



11 Number of junior division CASEF students selected as national applicants for BroadcommMASTERS.

108

Number of volunteer STEM professionals judging the 2022 Capital Area Science and Engineering Fair.





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www.casef.org

CASEF 2022

JUNIOR DIVISION PLACE AWARDS

<u>Project #</u>	<u>PLACE</u>		<u>Project #</u>	<u>PLACE</u>
JR-CHMS-001	1		JR-LIFE2-012	2
JR-CHMS-002	2		JR-LIFE2-013	1
JR-CHMS-003	1		JR-LIFE2-014	1
JR-CHMS-004	3		JR-LIFE2-015	1
JR-CHMS-005	2		JR-LIFE2-016	2
JR-CHMS-006	2		JR-MEHE-002	3
JR-CHMS-007	2		JR-PHYS-001	2
JR-CHMS-008	1		JR-PHYS-002	1
JR-CHMS2-009	1		JR-PHYS-003	3
JR-CHMS2-010	1		JR-PHYS-004	2
JR-CHMS2-011	2		JR-PHYS-005	2
JR-CHMS2-013	1		JR-PHYS-006	2
JR-CHMS2-014	2		JR-PHYS2-008	1
JR-CHMS2-015	2		JR-PHYS2-009	3
JR-CHMS3-016	2		JR-PHYS2-010	2
JR-CHMS3-017	1		JR-PHYS2-011	2
JR-CHMS3-018	2		JR-PHYS2-012	1
JR-CHMS3-019-T	2		JR-SOBE-001	1
JR-CHMS3-020	2		JR-SOBE-002	2
JR-CHMS3-021	3		JR-SOBE-003	2
JR-CHMS3-022	1		JR-SOBE-004	3
JR-LIFE-001	HM		JR-SOBE-006	2
JR-LIFE-002	3		JR-SOBE-007	1
JR-LIFE-003	1		JR-SOBE-008	2
JR-LIFE-004	3		JR-TEEM-001	2
JR-LIFE-005	3		JR-TEEM-002	2
JR-LIFE-006	2		JR-TEEM-003	1
JR-LIFE-008	2		JR-TEEM-004	2
JR-LIFE2-009	HM		JR-TEEM-005	2
JR-LIFE2-010	1		JR-TEEM-006	2
JR-LIFE2-011	2			

CASEF 2022

SENIOR DIVISION PLACE AWARDS

<u>PROJECT NUMBER</u>	<u>PLACE</u>		<u>PROJECT NUMBER</u>	<u>PLACE</u>
SR-CHMS-024	2		SR-MEHE-008	1
SR-CHMS-025	1		SR-MEHE-009	3
SR-CHMS-026	2		SR-MEHE-010	1
SR-CHMS-027	1		SR-MEHE-011	3
SR-CHMS-028	1		SR-PHYS-014	2
SR-CHMS-029	2		SR-PHYS-015	2
SR-CHMS-030	2		SR-PHYS-016	2
SR-LIFE-018-T	1		SR-PHYS-017	1
SR-LIFE-019	2		SR-PHYS-018-T	2
SR-LIFE-020	HM		SR-PHYS-020	2
SR-LIFE-021	3		SR-SOBE-009-T	2
SR-LIFE-022	1		SR-SOBE-010	3
SR-LIFE-023	3		SR-SOBE-011	2
SR-LIFE-024	1		SR-SOBE-012	2
SR-LIFE-025	2		SR-SOBE-013	1
SR-LIFE2-026	2		SR-SOBE-014	2
SR-LIFE2-027	3		SR-SOBE-016	2
SR-LIFE2-028	2		SR-SOBE-017-T	2
SR-LIFE2-029	1		SR-TEEM-007	3
SR-LIFE2-030	3		SR-TEEM-008	1
SR-LIFE2-031	1		SR-TEEM-010	2
SR-LIFE2-032	3		SR-TEEM-012	2
SR-MEHE-005	2		SR-TEEM-013-T	3
SR-MEHE-006	2		SR-TEEM-014	2
SR-MEHE-007	2			

2022 Capital Area Science and Engineering Fair Junior Division Special Awards

Page 1 of 2

<u>Award</u>		<u>Student</u>	<u>School</u>
American Institute of Chemical Engineers, Susquehanna Chapter	Chemistry	Rebecca Garner	St. Theresa School
	Environmental	William Klos	Camp Hill MS
American Association of Highway Engineers – Harrisburg Section	1 st Place	Nadav Sofian	Silver Academy
	2 nd Place	Roger Wehr	St. Theresa School
Conodoguinet Creek Watershed Association Award	1 st Place	William Klos	Camp Hill HS
	Honorable Mention	Liliana Hathaway	Harrisburg Academy
Dauphin County Medical Society Alliance Award for outstanding project in Medicine and Health	1 st Place	Theresa Foreman	St. Theresa School
	2 nd Place	Rashi Patel	Middletown Area MS
Farzin Charitable Fund of PA Bright Mind Award for outstanding projects in medical and health category	1 st Place	Jilian Keleman	Holy Name of Jesus
	2 nd Place	Elise Harris	Harrisburg Academy
	2 nd Place	Ryma Saha	Mechanicsburg MS
	3 rd Place	Michael Collins	Holy Name of Jesus
	Honorable Mention	Makayla Lindsey	Greenwood MS/HS
	Honorable Mention	Amare Johnson	Susquehanna Twp MS
IEEE - Susquehanna Section, Institute Of Electrical & Electronic Engineers Award		Arman Kazi	Hershey MS
JLG Industries Award for outstanding engineering project		Arman Kazi	Hershey MS
		Ben Wierzbicki	Holy Name of Jesus
Modjeski And Masters Engineering Award		Cameron Reist	Susquehanna Twp MS
Office of Naval Research – Us Navy And Marine Corps		Sai Sri Nidhi Maglineedi	CV Mountain View MS
		Arman Kazi	Hershey MS
Outstanding Botany Award		Shaunak Dalal	Hershey MS
		Hana Gimble	St. Theresa School
PSEA Retired Teachers Award in support of STEM Education	1 st Place	Ryma Saha	Mechanicsburg MS
		Khalanna Hadley	Susquehanna Twp MS
	Honorable Mention	Deena Korlewitz	Susquenita MS
		Theresa Foreman	St. Theresa School
Pennsylvania Society of Professional Engineers	1 st Place	Trevor Davis	Holy Name of Jesus
	2 nd Place	Ryan Chingakham	St. Margaret Mary
	3 rd Place	Arman Kazi	Hershey MS
	Honorable Mention	Reese Kimmel	Harrisburg Academy
Stephen F Spector Award		Jillian Keleman	Holy Name of Jesus
Women’s Transportation Seminar, Central PA Chapter		Ben Wierzhiki	Holy Name of Jesus
Lemelson Early Inventor Prize		Rashi Patel	Middletown MS
American Meteorological Society		Sai Sri Nidhi Maglineedi	CV Mountain View MS
Ricoh American Corporation Award for environmental responsibility and sustainable development		Liliana Hathaway	Harrisburg Academy
Love Award for excellent presentation and outstanding communication skills during the interview		Rachita Bandi	Harrisburg Academy
		Yaakov Reid	Silver Academy
		Maria Scherr	St. Theresa School
		Stacy Nguyen	Holy Name of Jesus
		Claire Skehan	Holy Name of Jesus

2022 Capital Area Science and Engineering Fair Junior Division Special Awards

<u>Award</u>	<u>Student</u>	<u>School</u>	
Love Award Continued	Michael Collins	Holy Name of Jesus	
	Shaunak DALAL	Hershey MS	
	Liliana Hathaway	Harrisburg Academy	
	William Klos	Camp Hill MS	
	Amare Johnson	Susquehanna Twp MS	
	Addison Barnes	St. Margaret Mary School	
	Ronan Blayney	St. Theresa School	
	Jillian Kelemen	Holy Name of Jesus	
	Sai Sri Nidhi Mogilineedi	CV Mountain View MS	
	Arman Kazi	Hershey MS	
	Elizabeth Crawford	St. Margaret Mary School	
Angel Mathews	CV Mountain View MS		
BroadcomMasters Middle School Competition Award given for top scores of all junior projects.	Ryma Saha	Mechanicsburg MS	
	Rachita Bandi	Harrisburg Academy	
	Jillian Kelemen	Holy Name of Jesus	
	Elizabeth Crawford	St. Margaret Mary School	
	Angel Mathews	CV Mountain View MS	
	Maria Scherr	St. Theresa School	
	Shaunak DALAL	Hershey MS	
	Ronan Blayney	St. Theresa School	
	Arman Kazi	Hershey MS	
Liliana Hathaway	Harrisburg Academy		
CASEF Category Awards for the top category projects sponsored by the Donald B. and Dorothy L. Stabler Foundation	Chemical Science	Rachita Bandi	Harrisburg Academy
		Elizabeth Crawford	St. Margaret Mary School
		Angel Mathews	CV Mountain View MS
	Life Science	Shaunak Dalal	Hershey MS
		Ainesh Paul	Hershey MS
		Ava Sansom	St. Theresa School
		Elizabeth Tunks	Hershey MS
	Physical Science	Liliana Hathaway	Harrisburg Academy
		Jillian Kelemen	Holy Name of Jesus
	Social and Behavioral Science	Ronan Blayney	St. Theresa School
		Ryma Saha	Mechanicsburg MS
Tech, Eng, & Math	Theresa Foreman	St. Theresa School	
	Arman Kazi	Hershey MS	
2020 CASEF Grand Champions	Finalist	Arman Kazi	Hershey MS
	Finalist	Liliana Hathaway	Harrisburg Academy
	Finalist	Jillian Kelemen	Holy Name of Jesus
	First Runner-Up	Ryma Saha	Mechanicsburg MS
	Grand Champion	Elizabeth Crawford	St. Margaret Mary

Dr. Laura J Hummell Educator Award is presented to:
Kaitlyn Roberts Hershey Middle School

2022 Capital Area Science and Engineering Fair Senior Division Special Awards

Page 1 of 4

<u>Award</u>		<u>Student</u>	<u>School</u>
American Chemical Society, South Eastern PA	1 st Place	Christine Tang	Hershey HS
	2 nd Place	Adrija Rambhatla	Cumberland Valley HS
	3 rd Place	Brodie Woodard	Greenwood MS/HS
	Honorable Mention	Ashleigh Rogers	Susquenita HS
American Institute of Chemical Engineers, Susquehanna Chapter	Chemistry	Adrija Rambhatla	Cumberland Valley HS
	Environmental Science	Brodie Woodard	Greenwood MS/HS
American Association of Highway Engineers – Harrisburg Section	1 st Place	Michael Singley	Susquenita HS
	2 nd Place	Brodie Woodard	Greenwood MS/HS
Appalachian Audubon Society Award for projects that support the habitat of native bird species		Ian Lentz	Camp Hill HS
		Sam Koda	Hershey HS
ASM Materials Education Foundation -International		Elizabeth Howard	Trinity HS
Conodoguinet Creek Watershed Association	1 st Place	Anabel Hathaway & Aidan Callahan	Harrisburg Academy
	Honorable Mention	Alice Benavides	Camp Hill HS
Dauphin County Conservation District Award for projects in environmental studies or related fields		Ian Lentz	Camp Hill HS
		Isabella Mirachi	Trinity HS
Dauphin County Medical Society Alliance Award for outstanding project in Medicine and Health	1 st Place	Sophia Guerriero	Berwick HS
	2 nd Place	Jaida Geiser	Berwick HS
Farzin Charitable Fund of PA Bright Mind Award or outstanding projects in medical and health category	1 st Place	Matthew Everett	Greenwood MS/HS
	2 nd Place	Kharece Ogunnaike	Cumberland Valley HS
	2 nd Place	Jaida Geiser	Berwick HS
	Honorable Mention	Doron Yospa	Middletown HS
IEEE - Susquehanna Section, Institute of Electrical & Electronic Engineers Award for an outstanding engineering or mathematics project		Aushi Patel	Hershey HS
JLG Industries Award for outstanding engineering project JLG Industries		Max Behfar	Carlisle HS
		Michael Singley	Susquenita HS
Modjeski And Masters Engineering Award		Jason Weller	Hershey HS
Office of Naval Research – Us Navy And Marine Corps		Jason Weller	Hershey HS
		Jada Geiser	Berwick HS
Outstanding Biology Award		Ian Lentz	Camp Hill HS
Outstanding Botany Award		Sadie Zehner	Berwick HS
Penn State College of Medicine Award		Matthew Everett	Greenwood MS/HS
PSEA Retired Teachers Award in support of STEM Education	1 st Place	Sophia Guerriero	Berwick HS
		Tristan Handley & Ashley Rusnov	Middletown HS
	Honorable Mention	Faryal Aziz	Hershey HS
		Kharece Ogunnaike	Cumberland Valley HS

2022 Capital Area Science and Engineering Fair Senior Division Special Awards

<u>Award</u>		<u>Student</u>	<u>School</u>
Pennsylvania Society of Professional Engineers	1 st Place	Anshi Patel	Hershey HS
	2 nd Place	Prathum Arikeri	Cumberland Valley HS
	3 rd Place	Jason Weller	Hershey HS
	Honorable Mention	Michael Singley	Susquenita HS
Rotary Club of Harrisburg Ecology Award		Aidan Callahan & Annabel Hathaway	Harrisburg Academy
Sustainable Energy Fund Energy Path Invitation		Awards were handed out during judging.	
Thomas Michael McAuliffe Memorial Award		Matthew Everett	Greenwood MS/HS
UGI Utilities, Inc. UGI Energy and Transportation Award		Brodie Woodard	Greenwood MS/HS
Us Air Force		Brodie Woodard	Greenwood MS/HS
Women's Transportation Seminar, Central PA Chapter		Michael Singley	Susquenita HS
Zoo America North American Wildlife Park ZooAmerica Conservation Award		Samuel Koda	Hershey HS
American Meteorological Society Award		Gretta Moore	Susquenita HS
American Psychological Association Award		Nora Klapkowski	Camp Hill HS
Association of Women Geoscientist		Bindu Chunduri	Cumberland Valley HS
Mu Alpha Theta Award for use of problem-solving mathematics		Aidan Callahan & Annabel Hathaway	Harrisburg Academy
NASA EARTH System Science Award		Isaiah Houssou	Camp Hill HS
National Oceanographic Atmospheric Association		Elizabeth Howard	Trinity HS
National Geographic		Marina Pugliese and Morgan Stonesifer	Bishop McDevitt HS
Society for In Vitro Biology		Alyssa Goodling	Greenwood MS/HS
Stockholm Junior Water Prize Award for top water-related projects		Sadie Zehner	Berwick HS
		Gretta Moore	Susquenita HS
Us Metric Association		Brodie Woodard	Greenwood MS/HS
Yale Science And Engineering Association Award for outstanding project in computer science, engineering, physics, or chemistry		Jason Weller	Hershey HS
PA BioGenius		Bindu Chunduri	Cumberland Valley HS
		Anna Lentz	Camp Hill HS
		Jasleen Mann	Harrisburg Academy
		Alice Benavides	Camp Hill HS
		Juliana Silber	Bishop McDevitt

**2022 Capital Area Science and Engineering Fair
Senior Division Special Awards**

<u>Award</u>	<u>Student</u>	<u>School</u>
Harrisburg University Scholarships	Gwyneth Parthemore	Bishop McDevitt HS
	Adrija Rambhatla	Cumberland Valley HS
	Alice Benavides	Camp Hill HS
	Juliana Silber	Bishop McDevitt HS
	Prathum Arikeri	Cumberland Valley HS
	Samuel Koda	Hershey HS
	Ashleigh Rogers	Susquenita HS
	Alayna Kelly	Susquenita HS
	Jasleen Mann	Harrisburg Academy
	Isabella Mirarchi	Trinity High School
	Madeline Galvin	Harrisburg Academy
	Marina Pugliese	Bishop McDevitt HS
	Morgan Stonesifer	Bishop McDevitt HS
	Tucker Wise	Carlisle HS
	Ashley Rusnov	Middletown Area HS
	Tristan Handley	Middletown Area HS
	Max Behfar	Carlisle HS
	Jason Weller	Hershey HS
	Bindu Chunduri	Cumberland Valley HS
	Sophia Guerriero	Berwick Area HS
	Jaida Geiser	Berwick Area HS
	Kharece Ogunnaike	Cumberland Valley HS
	Nora Klappowski	Camp Hill HS
	Anna Lentz	Camp Hill HS
	Sadie Zehner	Berwick Area HS
	Elizabeth Aichele	Cumberland Valley HS
Gretta Moore	Susquenita HS	
Margot Kuller	Camp Hill HS	
Doron Yospa	Middletown Area HS	
Michael Singley	Susquenita HS	
Love Award for excellent presentation and outstanding communication skills during the interview	Gwyneth Parthemore	Bishop McDevitt HS
	Adrija Rambhatla	Cumberland Valley HS
	Bindu Chunduri	Cumberland Valley HS
	Alyssa Goodling	Greenwood MS/HS
	Alice Benavides	Camp Hill HS
	Ian Lentz	Camp Hill HS
	Juliana Silber	Cumberland Valley HS
	Sophia Guerriero	Berwick Area HS
	Jaida Geiser	Berwick Area HS

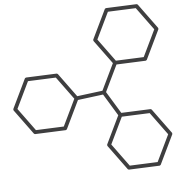
2022 Capital Area Science and Engineering Fair Senior Division Special Awards

<u>Award</u>		<u>Student</u>	<u>School</u>
Love Award Continued		Isaac Burd	Trinity HS
		Kharece Ogunnaike	Cumberland Valley HS
		Nora Klappkowski	Camp Hill HS
		Faryal Aziz	Hershey HS
		Anshi Paul	Hershey HS
		Prathum Arikeri	Cumberland Valley HS
		Annabel Hathaway	Harrisburg Academy
		Aidan (Ari) Callahan	Harrisburg Academy
		Samuel Koda	Hershey HS
		Elizabeth Howard	Trinity HS
		Anna Lentz	Camp Hill HS
		Sadie Zehner	Berwick Area HS
CASEF Category Awards for the top category projects sponsored by the Donald B. and Dorothy L. Stabler Foundation	Chemical Science	Christine Tang	Hershey HS
		Brodie Woodard	Greenwood MS/HS
	Life Science	Sadie Zehner	Berwick Area HS
		Samuel Koda	Hershey HS
		Ian Lentz	Camp Hill HS
	Medicine and Health	Matthew Everett	Greenwood MS/HS
		Jaida Geiser	Berwick Area HS
	Physical Science	Deepti Rao	Cumberland Valley HS
Social and Behavioral	Nora Klappkowski	Camp Hill HS	
Tech, Engineering, & Math	Anshi Paul	Hershey HS	
Senior Scholarships	3 years of participation	Margo Kuller	Camp Hill HS
	4 years of participation	Nora Klappkowski	Camp Hill HS
	5 years of participation	Elizabeth Aichele	Cumberland Valley HS
		Bindu Chunduri	Cumberland Valley HS
		Kharece Ogunnaike	Cumberland Valley HS
	6 years of participation	Michael Singley	Susquenita HS
		Anna Lentz	Camp Hill HS
		Gretta Moore	Susquenita HS
2022 CASEF Grand Champions	Finalist	Brodie Woodard	Greenwood MS/HS
	Finalist	Aidan Callahan & Annabel Hathaway	Harrisburg Academy
	Finalist	Matthew Everett	Greenwood MS/HS
	Alternate Grand Champion	Elizabeth Howard	Trinity High School
	Grand Champion	Ian Lentz	Camp Hill High School
	Grand Champion	Sadie Zehner	Berwick Area HS

Dr. Laura J Hummell Educator Award is presented to:
Amy Diehl Camp Hill High School

NOTES

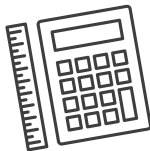
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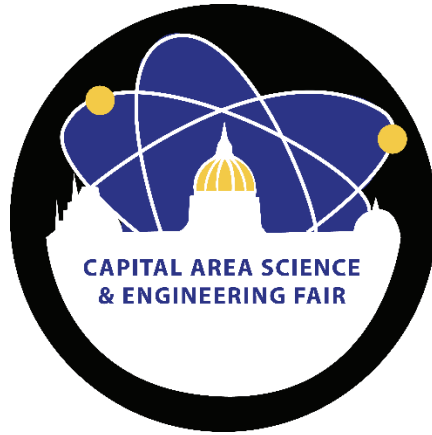


Congratulations!



*To all students, teachers, judges, sponsors,
and board members on a successful
2022 Capital Area Science and Engineering Fair.
We are committed to serve our community and hope
to see more events like these in the near future.*





Capital Area Science & Engineering Fair

PA EITC Innovative Educational Program

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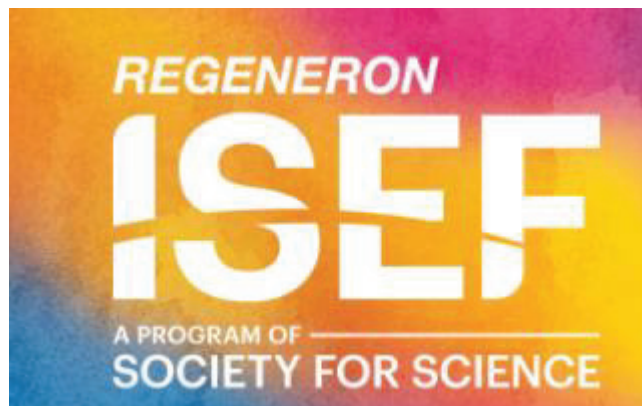
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