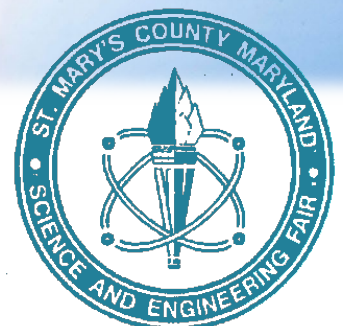


64th Annual St. Mary's County Science and Engineering Fair



January 26, 2024



ACE

ON  *TARGET*

***Proud Supporters of the
St. Mary's County Science and Engineering Fair***

ST. MARY'S COUNTY SCIENCE AND ENGINEERING FAIR 2024 WELCOME AND GUIDE

We welcome you to the 2024 St. Mary's County Science and Engineering Fair, our 64th annual fair. We are glad to be back for our second in-person fair following the pandemic! Students in public, nonpublic, and home schools in St. Mary's County have submitted their science exhibit displays and presentations in a virtual presentation for review before the fair. Today judges will see the presentations first-hand and students will be interviewed by the judging panels.

The exhibits are the result of projects generated by the student's interest in science and engineering. These students have taken on the role of scientists through their research. The core of science is inquiry, research, and discovery. Engineering applies science concepts through engineering design and testing. The students are offered a venue at the Science and Engineering Fair through which they may present their findings to their fellow students and the public. The Science and Engineering Fair Board hopes that this experience is a stepping stone to even greater scientific endeavors.

Exhibits are entered in two divisions: Junior (grades 6 through 8) and Senior (grades 9 through 12). In each division, exhibits are placed in one of 22 categories as listed in this program. Each exhibit is assigned a project number, which is listed in this program. Corresponding numbers are placed on the exhibits. All exhibits must adhere to the size and safety regulations specified by the Prince George's Area Science Fair Association and endorsed by the St. Mary's County Science and Engineering Fair Board.

Selected exhibits from the St. Mary's County Science and Engineering Fair will be chosen to be entered in the Prince George's Area Science Fair which will be held in-person in March 2024. Senior Division Grand Prize winners at the Prince George's Area Science Fair may have the opportunity to attend the 2024 Regeneron International Science and Engineering Fair which will be held in-person in May 11 - 17, 2024 in Los Angeles, California.

The St. Mary's County Science and Engineering Fair Board would like to thank the parents, teachers, mentors, and others who have made the process of discovery real to these students.

St. Mary's County Science and Engineering Fair Sponsors

We are listing our sponsors early in our program to illustrate their importance to the St. Mary's County Science and Engineering Fair. We could not hold this event without their support. Their contributions are used to set up and run the Fair, buy Fair supplies, and provide prizes and awards. These sponsors also support students who are selected to go on to the Prince George's Area Science and Engineering Fair and to Regeneron International Science and Engineering Fair. We sincerely thank them and are indebted for their sponsorship.



Corporate and Community Sponsors

Air Combat Effectiveness Consulting Group
Avian Engineering, LLC.
Cedar Point Federal Credit Union
Chick-fil-A
J. F. Taylor, Inc.
Meredith Kumke
Patuxent River Naval Air Station
Southern Maryland Autonomous Research and Technology Building
(The University System of Maryland at Southern Maryland)
Southern Maryland Resource Conservation and Development Board
St. Mary's County Public Schools
St. Mary's Ryken High School
St. Mary's Soil Conservation District
The Patuxent Partnership



ST. MARY'S COUNTY SCIENCE FAIR BOARD

President
Vice President
Secretary
Treasurer
Incorporation/Insurance
School Liaison
Awards
Judging
Program Booklet Committee

Certificates
IRB/SRC Committee

Webmaster
Photographer
Fundraising
Registration & Education

Mr. Mark Ragland
Mr. Jason Hayes
Mrs. Amanda O'Neill
Mr. John Ragland
Mr. Mark Ragland
Mr. Jason Hayes
Mr. Jason Hayes
Mr. Ferd Reetz
Mr. Jason Hayes
Mrs. Samantha Nelson
Mrs. Samantha Nelson
Mr. Jason Hayes
Dr. Neal Zabiegalski
Mr. Jason Hayes
Mr. Allen Skinner
Mr. Mark Ragland
Mr. Jason Hayes
Mr. Nathan Swick
Ms. Nicole Walker
Ms. Kirsten Burton
Mr. Allen Skinner
Mr. Mark Ragland
Ms. Amanda O'Neill
Mr. Ferd Reetz
Mr. John Ragland

As our science fair grows, we are in need of additional members. If you are interested in serving with this committee in any capacity, we would be very happy to have you participate. Please see any board member to express your interest.

ST. MARY'S COUNTY SCIENCE AND ENGINEERING FAIR BOARD AWARDS

The most important reward students entering the Science and Engineering Fair can receive is the experience and sense of accomplishment they receive from conducting a scientific investigation and exhibiting their achievements to their fellow students and the public. The following additional recognition will be given to those projects judged to be superior:

Grand Award Plaques	Junior Division Senior Division
First Place Medals and Ribbons	Each category in each division
Second Place Medals and Ribbons	Each category in each division
The Karine Ingersoll Sparkle Awards	Several awards will be made to those exhibitors who explain their projects with the most enthusiasm, rapport with listeners, and talent for effective communication.
Special Merit Awards	Special Merit Awards could be given by various civic, professional, and/or community groups. The individual sponsors of these awards set the determining criteria.

NOTE: The judges are authorized to withhold an award in any division or subject area if the exhibits judged are determined not to be high enough caliber.

Pilantana Anderson Don Bewick Kaylee Canales Dr. Carmen Cantemir-Stone Mackenzie Cape Dr. Edith Carron Amy Caruso Chris Cusic Keaton Dick Tom Dunn Clementine Dugan George Erichsen Lara Epnors Jerry Frank Katharine Gaines Edward Gesser Tiffany Gill Nicolette Glut Linda Hamel	Edward Hogan Justin Hurt Dr. Syed Hussaini Greg Jelic Mike Lange Malachi Lingg Dr. Buddhadeb Mallik Amanda Marge Makayla Mikesell Gabriel Murray Greg Olson Tanya Parker Joe Pham Kezia Phillip Andrew Powers Farhan Qazi Annette Ragland Dr. Ann Reagan	Frank Reiser Samantha Rennu Wulfe Retzlaff Matt Rhinehart David Roberts Joie Samuelson Dr. Johan Schijf Benjamin Skelley Sara Stephen Barrett Straub Adam Sweere Rupan Talukder Dr. Troy Townsend Bill Triplett Dillon Vadgama Natalie Wolfe Joshua Woodburn Frank Yelinek Aaron Young
--	---	--

SENIOR DIVISION

BIOCHEMISTRY

S-0301	Rishi Sheth	Beyond Lactose	GMHS
--------	-------------	----------------	------

BIOMEDICAL AND HEALTH SERVICES

S-0401	Marisa Shick	Pineapple Power	GMHS
--------	--------------	-----------------	------

BIOMEDICAL ENGINEERING

S-0501	Brianna Rourke	The Freedom Project	FCTC
S-0502	Owen Sutor	Sleep Safe	FCTC

COMPUTATIONAL BIOLOGY AND BIOINFORMATICS

S-0801	Reyna Anderson	Predicting HABs Using an LSTM Model	GMHS
S-0802	Alexandra Clark	Forecasting Dengue Fever in the U.S.	GMHS

EARTH AND ENVIRONMENTAL SCIENCES

S-0901	Aarav Sharma	Sticky Styrofoam	GMHS
S-0902	Siulina Shick	Tackling Climate Change with Tea Decay	GMHS
S-0903	Tristan Moore	A Worm's Environment	GMHS

EMBEDDED SYSTEMS

S-1001	Kimberly Valdivia	Navicane	FCTC
S-1002	Samuel King	Audio Transcription AR Glasses	GMHS

ENERGY: SUSTAINABLE MATERIALS AND DESIGN

S-1101	Laura Boynton	Run on Sun	GMHS
S-1102	Jacob Douglas	Layered Faraday Cage	GMHS

ENGINEERING TECHNOLOGY: STATICS AND DYNAMICS

S-1201	Hunter Kline	New U.S. Navy Crash Crane Design	GMHS
S-1202	Jeremy Graves	Rollover Winch	FCTC
S-1203	Khadija Talha	The Aircraft Wing - Reimagined	GMHS
S-1204	Dileinka Jimenez Huaman	Survive-A-Thing	FCTC

ENVIRONMENTAL ENGINEERING

S-1301	David Standish	Monitoring Floating Ecosystem	FCTC
--------	----------------	-------------------------------	------

MATERIALS SCIENCE

S-1401	Zane Kenney	The Effect of Pipe Diameter on Flow Rate and Pressure	GMHS
S-1402	Justin Shim	The Effect of Materials on Cell Phone Radiation	GMHS
S-1403	Ava Cotroneo	ArmadilloSkin - The Bulletproof Backpack Insert	FCTC

MICROBIOLOGY

S-1601	Emily Heng	WARNING: Bacterial Zone!	GMHS
S-1602	Brandon Duong	Effect of NaClO on Bleach Efficacy	GMHS

PLANT SCIENCES

S-1801	Ruby Chaillou	Attacking Algae	GMHS
--------	---------------	-----------------	------

ROBOTICS AND INTELLIGENT MACHINES

S-1901	Angela Hou	Neural Networks Recognizing Handwritten Math Symbols	GMHS
S-1902	Danielle Quesnell	Time-Automated Pet Feeder	GMHS

SYSTEMS SOFTWARE

S-2001	Kyle Franklin	Swing Sync	GMHS
--------	---------------	------------	------

Special Thanks!

Thank you to the many teachers and volunteers who assisted throughout the Science Fair event. St. Mary's County Teachers and School Science Fair Coordinators for encouraging Science Fair participation. Mentors of participants for advice and expertise provided to students. Parent(s)/Guardian(s) of participants for encouragement and support throughout the Science Fair process. Student participants for having questioning minds and seeking to solve real problems in science, mathematics, and engineering.

JUNIOR DIVISION

ANIMAL SCIENCES

J-0101	James Jahn III	Fishy Music	SRMS
J-0102	Gabriel Gribble	Best Way To Kill Or Capture Insects	SRMS
J-0103	Anna Carrillo	Do Dogs Have a Favorite Color?	FAW

BEHAVIORAL AND SOCIAL SCIENCES

J-0201	Susanna Nilsson	Three Truths and a Lie	SRMS
J-0202	Stella Dunbar	What Format is Best for Everyone?	SRMS
J-0203	Dylan Grabenstein	Colored Drinks	SRMS
J-0204	Iris Huang	Life's Too Short for Traffic	SRMS
J-0205	Adeline Ashby	Is It an A or AI?	SRMS
J-0206	Aneesha Brewster	Environmental Behavior Tests	SRMS
J-0207	Yuri Davis	Color & Taste	SRMS
J-0208	Taylor (Ty) Moore	The Attraction of the Human Mind	SRMS
J-0209	Ryan Messer	The Stroop Test	SRMS
J-0210	Maia Dixon	How Do Moon Phases Affect Sleep?	SRMS
J-0211	Claire Haley	Classical, Does It Help?	FAW
J-0212	Max Grilli	How Background Noise Affects How Well We Concentrate	SRMS

BIOCHEMISTRY

J-0301	Savanna Stadnicki	No More Tears	SRMS
--------	-------------------	---------------	------

BIOMEDICAL AND HEALTH SCIENCES

J-0401	Krishna Shah	Which Smoke Detector?	SRMS
J-0402	Alex Pope	The Nutrients Behind Sports Drinks	SRMS
J-0403	Madison Zackman	The Color of Life	FAW

BIOMEDICAL ENGINEERING

J-0501	Xenia Melanson	Crafty Canes	SRMS
--------	----------------	--------------	------

CHEMISTRY

J-0701	Kira Shah	The Magical Bath Bombs!	SRMS
J-0702	Anna Lisa	Are You Reef Safe?	SRMS
J-0703	Michael Lisa	Radioactivity in Fruits	SRMS
J-0704	Lily Latham	Which Heat Protectants Work Best at Protecting Hair?	SRMS
J-0705	Isa de León	UV Color Chemistry	SRMS

EARTH AND ENVIROMENTAL SCIENCES

J-0901	Gabriel Morgan	Growing During Global Warming	SRMS
J-0902	Ainsley Maddox	Oysters Effects on Our Waterways	SRMS
J-0903	Austin Frazier	Plant Propagation	SRMS
J-0904	Alhan Alam	The Green House Affect	SRMS
J-0905	Aubree Garza	Effect On Plants: Smoke Pollution	SRMS
J-0906	Ruhi Sheth	Acidic Seafood, Anyone?	SRMS
J-0907	Michaela Bell	Rain and PH	SRMS

EARTH AND ENVIRONMENTAL SCIENCES (continued)

J-0908	Jordan Parham	Don't Spoil Your Soil	SRMS
J-0909	Nora Hawkins	Roundup Or Round Down?	SRMS
J-0910	Marivella DeSavage	What is the Most Effective Way to Protect Shorelines?	SRMS
J-0911	John Singleton	Dust Busters	SRMS
J-0912	Alinah Rowlett	Mushroom Music	SRMS

EMBEDDED SYSTEMS

J-1001	Eli Grossman	A Tool to Measure the Sucrose Content of Fluids	SRMS
J-1002	Garrett Szymendera	Automatic Card Dealer	SRMS
J-1003	Ryan Cory	Do Different Light Bulb Brands Advertise Honestly?	SRMS

ENERGY: SUSTAINABLE MATERIALS AND DESIGN

J-1101	Nicholas Price	What's the Coolest Paint Color?	SRMS
J-1102	Waylon Starling	Self-Contained Hydroelectric Generator	SRMS
J-1103	Emma Starr	Solar Powered Phone Case	SRMS
J-1104	Evan McCormick	Wind Turbines	SRMS
J-1105	Caleb Shymansky	Manually Powered Generator	SRMS
J-1106	Brian Beatty	Smart Cane	SRMS

ENGINEERING TECHNOLOGY: STATICS AND DYNAMICS

J-1201	Jessica Seow	Air Cooler	SRMS
J-1202	Veronica Barrett	Moving on Up	SRMS
J-1203	Devin Wiggins	Creating a Barometer	SRMS
J-1204	Allison Harmon	The Pull in Chair	SRMS
J-1205	James Turner	Paper Airplane Launcher Project	SRMS
J-1206	Joseph Gesser	Automatic Pet Feeder	SRMS
J-1207	Gabriel Quesnell	The Best Drag Coefficient Model Car Design for Everyday Use	SRMS
J-1208	Tyler Haney	Keeping PCs Cool with Thermodynamics	SRMS
J-1209	Cynthia Noyes	Electromagnets and How to Strengthen them	SRMS
J-1210	Graham Rueter	Human-Powered Energy Generator	SRMS
J-1211	Jack Tritschler	Stringing Strategies	FAW
J-1212	Abeegail Douglas	3D Printed Drone Frames	SRMS

ENVIRONMENTAL ENGINEERING

J-1301	Logan Maday	Where is the Best Place to Put a Wind Turbine?	SRMS
J-1302	Samuel Blair	Structures Made from Plastic Materials	SRMS
J-1303	Ethan Becker	Algae Blooms in the Bay	SRMS
J-1304	Ryan Glauner	Vacuum Powered Washing Machine Wastewater Filtration	SRMS
J-1305	Diana Wyman	Simply Solar Sports Chair	SRMS

MATERIALS SCIENCE

J-1401	Connor Wells	How Are Different Devices Affected by Magnets?	SRMS
J-1402	Isaac Bowers	Testing the Properties of Lego Plastics	SRMS
J-1403	Jacob Jeffers	Using 3D Printing for Diabetes	SRMS
J-1404	Vivian Carey	Vitamin D for Dancers: Testing an Outdoor Dance Floors	SRMS
J-1405	Simrit Raheja	Degrading Plastic So Future Are Not Tragic	SRMS

MATHEMATICS

J-1501	Anna Tritschler	Does Defense Really Win Games?	FAW
--------	-----------------	--------------------------------	-----

MICROBIOLOGY

J-1601	Natalie Stevens	A Brush with Bacteria!	FAW
--------	-----------------	------------------------	-----

PHYSICS AND ASTRONOMY

J-1701	Jaylynn Rodocker	The Effects of an Arrows Lengths	SRMS
J-1702	Kyler Cotugno	Flight Formed Models - Examining Aerodynamics	SRMS
J-1703	Philip Bain	Under-inflated	SRMS
J-1704	Catherine Fucito	Ferromagnetic Effects On Electromagnets	SRMS

PLANT SCIENCES

J-1801	Analiese Wiesen	Reusing Grey Water	SRMS
J-1802	Jane Venendaal	Farming For Climate Change	SRMS

SYSTEMS SOFTWARE

J-2001	Kevin Vo	Password Security	SRMS
J-2002	Mhi'a Rose Empederado	Sound-activated LED Lights with Microphone Sensor Detector	SRMS

TRANSLATIONAL MEDICAL SCIENCE

J-2101	Jesse Czerwicz	Walking Assistance	SRMS
--------	----------------	--------------------	------



Father Andrew White, S.J. School

LEADERSHIP ✦ FAITH ✦ ACADEMICS



PAST GRAND AWARD WINNERS

Year	Award	Name	Title
1962	Senior Award:	Robert Blevins	Tone Transmitter and Receiver to Control a Boat
	Junior Award:	Allen Chevront	Controlled Reflexes of Fishes
1963	Senior Award:	Jon A. Swenson	Transistorized Metal Locator
	Junior Award:	Allen Chevront	Effects of Sound on Plant Growth
1964	Senior Award:	Eva Barbarich	Drugs vs. Radiation
	Junior Award:	James Boyd	Lungless Frogs
1965	Senior Award:	James Wible	A Solar Spectroscope
	Junior Award:	Neil Ferri	Bacteriostasis
1966	Senior Award:	June Ferrari	Effect of Legume Protein Diet in Albino Rats
	Junior Award:	Neil Siegel	The Anatomy of a Vortex
1967	Senior Award:	Glen Gerberg	Applied Telemetry Toward Acceleration
	Junior Award:	Joseph Gardner	Aerodynamics
1968	Senior Award:	James Raley	Monomolecular Reaction
	Junior Award:	David F. Kelly	Constructing a Mathematical System
1969	Senior Award:	Catherine Gohl	Cancer No More
	Junior Award:	Alvin Marshal Charles Kohl	Antennas for Space Communication The Wonder of Stars
1971	Senior Award:	Margo Nansteel	Insecta - Chromosomes and Mutations
	Junior Award:	Cindy Ann Ford	What Effect Does Overcrowding Have on Fish?
1972	Senior Award:	Beverly A. Hill	Water Pollution Study
	Junior Award:	Mary M. Kelley	Recovering Silver
1973	Grand Award:	Susan M. Schlosser	Solar Energy
1974	Senior Award:	Michael Lynch	E.P.S.A.I.
	Junior Award:	Karen E. Jarboe	Oysters and Oil
1975	Grand Award:	William G. Lindsley	Aerodynamics and Designing a Wing
1976	Senior Award:	Sue Ann McDonald	The Process of Osmosis in Salmon
	Junior Award:	Ronald L. McCormick	Oil – Water Separation
1977	Senior Award:	Charles R. Daugherty	Patterns of Numbers in Sequence
	Junior Award:	Scott E. Tilson	Gravity Effects on Falling Bodies
1978	Senior Award:	John F. Iekel	The Year the East Dried Up
	Junior Award:	Barney H. Kable	Indigestion
1979	Senior Award:	Tracey Hammett	Gravitational Forces on Drosophila
	Junior Award:	Dawn Nunziato	Pinhole Cameras
1980	Senior Award:	John Iekel	Microclimates - Unseen Force
	Junior Award:	Annmarie Ingersoll	Health = Work + Diet
1981	Senior Award:	Annmarie Ingersoll	Buttoning Down Nature's Preppy Look
	Junior Award:	Christina Ingersoll	Wavelength: Chlorophyll: Growth
1982	Senior Award:	David Fortney	Mirrors and Reflections
	Junior Award:	Christina Ingersoll	Chlorophyll's Clue Commence
1983	Senior Award:	Joseph Cerrito	Solar Powered Air Ships
	Junior Award:	Preston Wood	Structural Lumber Strength
1984	Senior Award:	Annette Howard	Soxhlet Method of Extraction
	Junior Award:	Shannon Quinn	What Factors Affect Daphnia the Most?
1985	Senior Award:	Barbara Earnshaw	Function of Amyloplasts in Roots
	Junior Award:	Michelle Cardello	What Chemicals Inhibit Mold Growth?
1986	Senior Award:	Eric Fleming	Fat vs. Fat
	Junior Award:	Michelle Cardello	Purple Spots Tell the Story

1987	Senior Award:	Preston Wood	Steam Turbo Prop
	Junior Award:	Kelly Dion	Stunts That Mice Learn
1988	Senior Award:	Sotanya Rushing	The Bacterial Side of Mouthwash
	Junior Award:	Diana Gillam	The Beat Goes On
1989	Senior Award:	Christine Holmberg	Sending Messages
	Junior Award:	Jennifer Dowdell	Radio Wave Propagation
1990	Senior Award:	Heather Hoyack	Enzyme Action in Seeds
	Junior Award:	Zeena Lafeer	Too Hot to Handle Too Cold to Grow
1991	Junior Award:	Zeena Lafeer	Do They Measure Up?
1992	Senior Award:	Craig Bailey	Go With The Flow
	Junior Award:	Megan Dowdell	Bubble Count
1993	Senior Award:	Stacey O'Brien	Seasonal Changes in Estuaries
	Junior Award:	Laura Stewart	Water Wisdom
1994	Senior Award:	Jennifer Dowdell	Leaving the Competition in Tears
	Junior Award:	Jon Eichenmuller	NPV vs. Wax Moth Larva
1995	Senior Award:	Megan Dowdell	What's the Frequency, Kenneth?
	Junior Award:	Andrew Troutman	Ponder This
1996	Senior Award:	Cassandra Lot	Dissolving Struvite Stones
	Junior Award:	Christina Resico	Water... Enjoy It Now; Search For It Later
1997	Senior Award:	Kim Wessells	Battling for Dominance: Onion vs. Lettuce
	Junior Award:	Nicole Carbonaro	Domino Derby
1998	Senior Award:	Danielle Kalkofen	ELF Field Effects
	Junior Award:	Nicole Carbonaro	Vocabulary - How Do You Learn It?
	Intel ISEF:	Nicole Carbonaro (Observer)	Vocabulary - How Do You Learn It?
1999	Senior Award:	Danielle Kalkofen	Triclosan: Antibiotic Turned Mutagen
	Junior Award:	Kathleen Cox	Microwave Radiation And Bean Plants
2000	Senior Award:	Brett Darcy	Engineering An Accurate Simulation
	Intel ISEF:	Brett Darcy	Engineering An Accurate Simulation
	Junior Award:	Elise Carbonaro	Give Me A Break!
2001	Senior Award:	Kirsten Schuck	Can <i>Elodea densa</i> Survive An Oil Spill?
	Junior Award:	Garvi Sheth	Lead In Your Water
2002	Senior Award:	Nicole Carbonaro	Dancers And Hurdlers Leap For Physics
	Intel ISEF:	Nicole Carbonaro	Dancers and Hurdlers Leap for Physics
	Junior Award:	James Moderski	Boat Bows And Balloon Engines
2003	Senior Award:	Michelle Mattingly	Drums of Seawater
	Team Award:	Jeffrey Dronenburg Matthew Martz	Mad Science - Electrokinetic Propulsion
	Intel ISEF:	Jeffrey Dronenburg Matthew Martz	Mad Science - Electrokinetic Propulsion
	Junior Award:	Pierce Autry	Algae Bloom: Chemical or Natural
2004	Senior Award:	Daniel Page	A Picture is Worth 2 Thousand Numbers
	Team Award:	Kalin Kane Christianna Stavroudis	Relative Speaking...Correlations in Relativity
	Junior Award:	Julie Walker	Stumped
2005	Senior Award:	Nick Bruno	Diesel Fuel from Vegetable Oil
	Intel ISEF:	Nick Bruno	Diesel Fuel from Vegetable Oil
	Team Award:	Amber Cook Justine Crutchfield	One Fly, Two Fly, Red Fly, White Fly
	Junior Award:	Courtney Bartels	Raining Acid

2006	Senior Award:	Nick Bruno	A Novel Compound in Organic Synthesis
	Intel ISEF:	Julie Walker	The Dust Devils Did It
	Team Award:	Stephanie Galanie Diane Mattingly	Make me a Match
	Junior Award:	Mark Ragland	Laser Com System
2007	Senior Award:	Daniel Brand	The Cost of Heat Loss
	Junior Award:	Matthew Dowdle	The Skyscraper
2008	Senior Award:	Amie Gilligan Tony Oblen	Sound Off! Dead Zones: How to Save the Chesapeake
	Intel ISEF:	Julie Walker	What a MES: Mars Environment Simulator II
	Team Award:	Kristen Dronenburg Bethany Schaeffer	Punching Out Won't Hurt So Bad
	Junior Award:	Hailey Dodges Alex Ragland	The Greater Gear Aeroponics vs. Hydroponics
2009	Senior Award:	Mark Ragland Shefali Shah	Submerged Laser Communication The Big, The Bad, and The Small – Part II
	Intel ISEF:	Julie Walker	What a MES: Mars Environment Simulator III
	Junior Award:	Alex Ragland Sara Moore	International Plant Station Feathered Flight Simulator
	Intel ISEF:	Sara Moore (Observer)	Feathered Flight Simulator
2010	Senior Award:	Kelles Gordge	Take a Deep Breath!
	Senior Award:	Amanda Dennis	Music 4 the Heart
	Intel ISEF:	Mark Ragland	Simulating Ocean Water for Video Laser Communication
	Junior Award:	Katie Jahn	Water, Water, Everywhere...Any to Drink?
2011	Senior Award:	Kelles Gordge	Critical Point of View
	Senior Award:	Aparna Sajja	Transgenic Zebratism Retinas
	Junior Award:	Nicholas Ragland	Fruits' Antioxidant "Punch!"
	Junior Award:	Annie Imhof	Monitoring Oyster Spat Growth
	Intel ISEF:	Kelles Gordge	Critical Point of View
	Intel ISEF:	Shefali Shah	To Clay or Not to Clay?
2012	Senior Award:	Kelles Gordge	Direction Detection
	Senior Award:	Alina Myers	Hydrodynamics of Boogie Boards
	Junior Award:	Nicholas Ragland	Yeast Feast
	Junior Award:	Jay Tracy	Invisible Aircraft
	Intel ISEF:	Kelles Gordge	Direction Detection
	Intel ISEF:	Sara Moore	Get Your Head in the Game
	Intel ISEF:	Connor Alsheimer	Lichtenburg Lightning
2013	Senior Award:	Mina Fahmi	iControl
	Senior Award:	Michael Lopez	Hydrokinetic Energy System
	Junior Award:	Juliana Geyer	Meteor Angle and Sediment Size vs. Material Displacement
	Junior Award:	Jaret Williams	Smart Mailbox
	Intel ISEF:	Mina Fahmi	iControl
2014	Senior Award:	Mina Fahmi	Development of a Teleoperation Robot
	Senior Award:	Michael Lopez	Rain Power
	Junior Award:	Marianne Beaulieu	Fractalception - The Art of Randomness
	Junior Award:	Alyssa Wilson	How Sweet It Is!
	Intel ISEF:	Mina Fahmi	Development of a Teleoperation Robot
	Intel ISEF:	Michael Lopez	Rain Power

2015	Senior Award:	Allyson Myers	Wind Turbines: The Deadly Truth
	Senior Award:	James Kelly	Depth Sensing Aid for the Blind
	Junior Award:	Adam Linholm	Curious Crests
	Junior Award:	Ryan Williams	Kinect Controlled Robot Arms
	Intel ISEF:	Jonathan Yu	Smart Sensors for Localizing Blade Impacts
2016	Senior Award:	Roma Kankaria	Melanoma and the Art of Resection
	Senior Award:	Jonathan Yu	Wireless Sensing for Blade Impacts
	Junior Award:	Olivia Sowa	Radiation to the Nation
	Junior Award:	Ryan Williams	STACS: Spatially Targeting Air Cooling System
	Intel ISEF:	Jonathan Yu	Wireless Sensing for Blade Impacts
2017	Intel ISEF:	Jay Lee	Creating a Spherical 3D Printer
	Senior Award:	James Kelly	Multiclass Motor Imagery Classification
	Senior Award:	Savannah Jabr	The Dimples Efficacy
	Junior Award:	Ryan Williams	Remotely Op. Planetary Exploration Rover
	Junior Award:	Tyler Ludlow	The Impact of Video Games on Cognition
2018	Intel ISEF:	Abigayle Polsky	New, But Reused: Recycled Insulation
	Senior Award:	John Podsednik	
		Kyra Pratley	Prescribed Code
		William Voorhees	
	Senior Award:	James Kelly	Machine Learning Application for Heart Disease Diagnosis
2019	Junior Award:	Peter Imhof	What Washes Well?
	Junior Award:	Tom Wilson	Vacation Irrigation
	Intel ISEF:	John Podsednik	
		Kyra Pratley	Prescribed Code
		William Voorhees	
2020	Senior Award:	Madelyn Chisholm	Blind Spot Camera System
	Senior Award:	Tom Wilson	Best Tour of the Store
	Junior Award:	Julia Nilsson	Population Inoculation
	Junior Award:	Peter Imhof	Best Speed for Your Buck
2021	Senior Award:	Ria Sharma	Say No to Nanosilver
	Senior Award:	Amanda Johnson	The Safety Baseboard System
	Junior Award:	Oliver Stevens	Brand/Generic: Which Dissolves Faster?
	Junior Award:	Mark Reineke	Home Siding Efficiency
2022	Senior Award:	Carter Brotherton	Too Much Acid
	Senior Award:	Jonah Chaillou	Renewable in the Pool
	Junior Award:	Braden Gutekunst	Hydro Electric Turbine
	Junior Award:	Joseph Grossman	Card Counting Combinatory Computer
2023	Senior Award:	Evan Walsh	The Pocket Charger
	Senior Award:	Jesse Burks	Effects of Pressure on Electrical Arcing
	Junior Award:	Samuel King	Self-Watering Plant
	Junior Award:	Audrey Gutekunst	Pellet Plants
2023	Senior Award:	Evan Walsh	MagFlow
	Senior Award:	Briana Rourke	
		Zoey Dellapietro	Balance Brace
	Junior Award:	Eli Grossman	Optical Activity in Sugar Solutions
	Junior Award:	Vivian Carey	Colorful Hydroponics
	Regeneron ISEF:	Evan Walsh	MagFlow
	Regeneron ISEF:	Ava Cotroneo	Bulletproof Backpack Insert

Congratulations to all the
2024 St. Mary's County Science and
Engineering Fair award winners
who will be continuing too the
Prince George's County Area Science Fair!

Best of luck!



**We are resourceful, responsive and reachable
for our customers in:**

Test and Evaluation
UAS Consulting
Cyber Consulting
Acquisition Services
Information and Multimedia Services
Workforce Development and Training

www.avianllc.com

A Service-Disabled, Veteran-Owned Small Business
22111 Three Notch Road | Lexington Park, MD 20653 | 301.866.2070



JFTAYLOR

— INC —



*Local Defense Contractor
Investing in the Navy's
Mission since 1983.*

www.jfti.com



301-862-3939



CEDAR POINT
FEDERAL CREDIT UNION®

