

## Alachua

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### Junior *Animal Sciences*

Isaac J Long J0114	Howard W. Bishop Middle School Crotalaria Cravings	Mrs. Tonya Camaratta
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Fourth Place

### Junior *Behavioral & Social Sciences*

Lauren N. Sanders J0213	Howard W. Bishop Middle School Are Alachua County's Backpacks too Heavy?	Dr. Chloe Winant
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Recognition

### Junior *Biomedical & Health Sciences*

Maya Oli J0312	Howard W. Bishop Middle School Pharma Water II: Personalized Drinking Water Filter	Mrs. Tonya Camaratta
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Honorable Mention

Ashley E Quigley J0313	Kanapaha Middle School Shining Light on the Truth about Sunscreen	Ms. Janet Wisby
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Honorable Mention

### Junior *Cellular/Molecular Biology & Biochemistry*

James S Cohan J0410	Howard W. Bishop Middle School How Do You Take Your Vitamin C?	Mrs. Tonya Camaratta
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First Place

Zachary B Martens J0411	Oak View Middle School How Does the Oxygen Level and Temperature Affect the Movement of <i>C. Elegans</i> ?	Mrs. Barbara Brook
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Third Place

### Junior *Earth & Environmental Sciences*

Anjana Balachandar J0616	Abraham Lincoln Middle School Is Your Water Swell or Does Your Water Smell?	Mrs. Kim Baxter
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Honorable Mention

Hayato L Shiomitsu J0617	Fort Clarke Middle School What Substance is the Most Effective to Carry out the Capillary Phenomenon?	Ms. Anne Karlo
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Honorable Mention

### Junior *Engineering*

Anthony D Madorsky J0729	Howard W. Bishop Middle School R.A.D. Automated Hydration System for Cyclists	Dr. Chloe Winant
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Third Place

Himanshi Verma J0731	Abraham Lincoln Middle School A Possible Solution to a Trending Problem: Babies Dying in Hot Cars	Mrs. Kim Baxter
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Fourth Place

**Junior**      *Environmental Engineering*

Janani S Kumaran	Abraham Lincoln Middle School	Mrs. Kim Baxter
J0813	Which Material Makes the 'Coolest' Insulator?	

Fourth Place

Isabelle B Lednicky	Howard W. Bishop Middle School	Mr. Paul Jost
J0814	Safety and Efficacy of Homemade vs Store Bought Pesticides	

Honorable Mention

**Junior**      *Intelligent Machines, Robotics, & Systems Software*

Zachary A Hilman	Oak View Middle School	Mrs. Barbara Brook
J0909	Digital Floor Mapping with Arduinio	

Recognition

**Junior**      *Mathematics & Computational Sciences*

August A Ewert-Harpold	Howard W. Bishop Middle School	Mrs. Tonya Camaratta
J1008	MEME: A Matchbox Educable Mini-Checkers Engine	

Second Place

**Junior**      *Microbiology*

Matthew I Mitchell	Kanapaha Middle School	Ms. Janet Wisby
J1109	Algae: The Untold Story	

Honorable Mention

**Junior**      *Physics & Astronomy*

Avery G Goodman	Fort Clarke Middle School	Ms. Anne Karlo
J1226	Wing It	

Third Place

**Junior**      *Plant Sciences*

Brindha P Rathinasabapathi	Abraham Lincoln Middle School	Mrs. Kim Baxter
J1317	Can Glutathione or Wollastonite Be Used to Reduce Arsenic Contamination in Rice?	

Third Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Jialiu A Liang	Eastside High School	Mrs. Alisha Kage
S0417	Predicting Cancer Cells' Sensitivity to Chemotherapeutic Drugs	

Third Place

**Senior**      *Earth & Environmental Sciences*

Zofia N Caes	Eastside High School	Mrs. Alisha Kage
S0617	Analyzing the Effects of Meteotsunamis in the Gulf of Mexico	

Third Place

**Senior**      *Engineering*

Sidhika Balachandar S0720	F. W. Buchholz High School Novel Granular Scaffolding that Jams and Unjams for Delicate 3D Printing	Ms. Diane McDilda
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Third Place

Sohan G Subhash S0722	F. W. Buchholz High School Making Harder Materials Tougher	Ms. Diane McDilda
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Fourth Place

**Senior**      *Environmental Engineering*

Arjun P Panicker S0813	F. W. Buchholz High School Water Purification for Households	Ms. Diane McDilda
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Third Place

**Senior**      *Intelligent Machines, Robotics, & Systems Software*

Amir A Helmy S0908	Eastside High School Using Data-Driven Frequency Analysis Techniques to Detect Seizures and Falls	Mrs. Alisha Kage
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Division Grand Award Winner And First Place

**Senior**      *Mathematics & Computational Sciences*

Sarah E Eisenstadt S1011	Eastside High School How Precise is Precision Medicine? Modeling the Development of Metastasis, and Determining Optimal Sequencing for Mammograms	Mrs. Alisha Kage
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Fourth Place

Emily Naranjo S1011	Eastside High School How Precise is Precision Medicine? Modeling the Development of Metastasis, and Determining Optimal Sequencing for Mammograms	Mrs. Alisha Kage
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Fourth Place

*25 awards for Alachua Region*

## Big Springs

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### Junior *Animal Sciences*

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Kayle N Cunningham	The Villages Charter Middle School	Mrs. Shelbie Wiley
J0119	Is Vet RX a Healthier Replacement than Antibiotics for Chickens in Commercial Farming?	

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Second Place

### Junior *Behavioral & Social Sciences*

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Joshua A Fosen	Osceola Middle School, Ocala	Mr. Lewis Wilson
J0214	The Magnet of Frustration	

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Fourth Place

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Anderson Salazar	Osceola Middle School, Ocala	Mr. Lewis Wilson
J0214	The Magnet of Frustration	

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Fourth Place

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Micaela E McGrath	The Villages Charter Middle School	Mrs. Gretchen Reardon
J0215	Can an Application for Alzheimer's Improve a Patient's Quality of Life?	

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Third Place

### Junior *Chemistry*

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Shelby L Rowe	Grace Christian School	Mr. Trevor Roberts
J0527	Which Rocket Fuel Substance Creates the Most Thrust?	

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Second Place

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Daniel A Williams	Classical Conversations Homeschool	Mrs. Meredith Williams
J0528	Thermite vs Dew Can	

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Third Place

### Junior *Earth & Environmental Sciences*

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Anna C Mitchell	Osceola Middle School, Ocala	Mr. Lewis Wilson
J0622	Frogs Gone Wrong Continued	

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Third Place

### Junior *Engineering*

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Larry E Thomas	Bellevue Middle School	Ms. Helen Hamel
J0738	It's Full of Hot Air	

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Second Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

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Andy Shar	The Villages Charter Middle School	Mrs. Lauri Siverson
J0911	Computer Program Simulation on the Impact of Herd Immunity and Vaccines on Disease Propagation	

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Second Place

### Junior *Plant Sciences*

Cheyenne R Shirley J1326	South Sumter Middle School Creeping Indigo vs Grazon Next	Mr. Kevin Strickland
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Fourth Place

**Senior**      *Animal Sciences*

Harrell H Phillips, III S0117	Vanguard High School Feeding A Hungry World: The Role of Macrocyclic Lactones	Mr. John Hare
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Fourth Place

**Senior**      *Behavioral & Social Sciences*

Luke Mayo S0221	South Sumter High School Changing Perceptions of GMO's Through Education	Ms. Emily Keeler
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Recognition

**Senior**      *Biomedical & Health Sciences*

Kendall R Clark S0319	South Sumter High School The Effect of Naringin on Oct-1 Deficient Cells: The Fabulous Flavonoid Year II	Ms. Emily Keeler
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Honorable Mention

Tiffany Liu S0320	The Villages Charter High School Can MRI Be Used as a Novel Technique to Diagnose Human Bacterial Blood Infections?	Ms. Monica Vinas
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Second Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Kyle A Coady S0427	South Sumter High School Particles with Tunable Size in Relation to Fiber Length	Ms. Emily Keeler
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Recognition

Sai Aditya Sriram S0428	Vanguard High School A Novel Method to Correlate Weight Gain and Increased Risk of Metallosis in Metal-on-metal Hip and Knee Implant Patients	Mr. John Hare
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First Place

Isabel M Torres S0429	The Villages Charter High School A Neuronal Cell Study Probing Tau Hyperphosphorylation as a Model for Chronic Traumatic Encephalopathy (CTE)	Ms. Monica Vinas
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Second Place

**Senior**      *Chemistry*

Kranti Rumalla S0514	West Port High School The Effect of Varying Temperatures on the Release of Antimony within Polyethylene Terephthalate Plastic Beverage Bottles	Mrs. Judith Dominguez
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Recognition

**Senior**      *Earth & Environmental Sciences*

Peter A Ashley S0625	South Sumter High School Rice Rice Baby: An Ecological Method to Becoming a Sustainable Population	Ms. Emily Keeler
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Recognition

Amy M Ashley	South Sumter High School	Ms. Emily Keeler
S0625	Rice Rice Baby: An Ecological Method to Becoming a Sustainable Population	

Recognition

Andrew O Ashley	South Sumter High School	Ms. Emily Keeler
S0625	Rice Rice Baby: An Ecological Method to Becoming a Sustainable Population	

Recognition

Carlie M Taylor	The Villages Charter High School	Ms. Monica Vinas
S0627	Analysis of the Relationship Between Climate and <i>Pinus elliotii</i> Ring Chronologies: Year 2	

Fourth Place

**Senior**      *Engineering*

Christine Hwang	Vanguard High School	Mr. John Hare
S0731	Development of a Bacterial Sensor Using Bioconjugated Silver Nanoparticles	

Third Place

Jacob A Mosley	Vanguard High School	Mr. John Hare
S0731	Development of a Bacterial Sensor Using Bioconjugated Silver Nanoparticles	

Third Place

**Senior**      *Environmental Engineering*

Kevin M Matos	The Villages Charter High School	Ms. Monica Vinas
S0823	A Photobioreactor for the Future	

Honorable Mention

Kunal Upadya	Vanguard High School	Mr. John Hare
S0824	Copper Nanoparticles in a Reverse Osmosis Water Filtration System for Inhibition of Microbial Growth- Year 2	

Third Place

**Senior**      *Intelligent Machines, Robotics, & Systems Software*

Kathy Nguyen	The Villages Charter High School	Ms. Monica Vinas
S0910	Year Two of an Ongoing Study: Immersive Virtual Reality	

Recognition

**Senior**      *Plant Sciences*

Sabrina L Mead	The Villages Charter High School	Ms. Monica Vinas
S1323	How Effective are Polymers in the Rehabilitation of Contaminated Soil; and which Type is the Most Effective?	

Honorable Mention

**28 awards for Big Springs Region**

## Brevard: Intracoastal

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### Junior *Animal Sciences*

Vicent G Bauerle J0112	DeLaura Middle School Wiggling Away With Compost	Ms. Deborah Austin
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Recognition

### Junior *Behavioral & Social Sciences*

Tiffany F Matta J0209	DeLaura Middle School The Power of Perception	Ms. Deborah Austin
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Third Place

### Junior *Biomedical & Health Sciences*

Mirabelle A Gerts J0309	DeLaura Middle School Eradicating Diseases by Terminating from Alloys	Ms. Deborah Austin
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Fourth Place

### Junior *Cellular/Molecular Biology & Biochemistry*

Margaret McMahan J0409	DeLaura Middle School Clean Hygiene: Using Coconut Oil to Combat <i>Streptococcus mutans</i> without Cell Mutation	Ms. Deborah Austin
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Recognition

### Junior *Chemistry*

Noah S Huff J0513	Edgewood Jr/Sr High School What Is the Best Method for Filtration of Water Containing Heavy Metals?	Ms. Meredith Fredricks
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First Place

### Junior *Engineering*

Nicholas M Gaug J0727	DeLaura Middle School Ice, Ice Baby...Putting An End To Pavement Damage	Ms. Deborah Austin
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Third Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

Deegan G Tarrillo J0908	DeLaura Middle School Communicating Protocol: Smart Car Safety at Intersections (Year 2)	Ms. Deborah Austin
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Honorable Mention

### Junior *Mathematics & Computational Sciences*

Jada R Jones J1007	Edgewood Jr/Sr High School Lightning vs Solar	Ms. Meredith Fredricks
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Third Place

### Junior *Microbiology*

Alexander M LaFortune	Cocoa Beach Junior/Senior High School	Ms. Alberta Ruth Travers
J1107	Contaminated vs Clean: The Effects of Radiation on the Growth of <i>E.coli</i> K-12 Bacteria	

Recognition

**Junior**      *Physics & Astronomy*

Harrison A Tinker	Holy Trinity Episcopal Academy	Mrs. Jessica Kelce
J1222	Can an Air Bubble Be Suspended in Water by Sound Waves of a Certain Frequency?	

Third Place

**Junior**      *Plant Sciences*

Maximus L Schieman	DeLaura Middle School	Ms. Deborah Austin
J1314	Putting the Nucleotide in Oligonucleotide-Directed Mutagenesis	

Third Place

**Senior**      *Behavioral & Social Sciences*

Alyssa Russell	Satellite High School	Mr. Joe Scott
S0214	The Sound of Music	

Third Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Summer L Van Orman	Edgewood Jr/Sr High School	Mr. Ryan Cilsick
S0413	Effects of Endocrine Disrupting Compounds on Embryonic Growth	

Honorable Mention

**Senior**      *Chemistry*

Connor J Wong	Edgewood Jr/Sr High School	Mr. Ryan Cilsick
S0508	Ribulose-1, 5-Bisphosphate Carboxylase/Oxygenase Carbon Fixation in <i>Rhizophora mangle</i>	

Recognition

**Senior**      *Earth & Environmental Sciences*

Kendall Karcher	Satellite High School	Mr. Joe Scott
S0615	Wetland Preservation and Mosquito Control: An Integrated Approach	

Fourth Place

**Senior**      *Engineering*

Abbey Havel	Satellite High School	Mr. Joe Scott
S0715	Time to Bust the Mars Dust	

Recognition

**Senior**      *Environmental Engineering*

Liam D Ballesty	Edgewood Jr/Sr High School	Mr. Ryan Cilsick
S0810	River Monsters, An Underwater Autonomous Drone	

Second Place

**Senior**      *Microbiology*



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Julia Hoffman	Satellite High School	Mr. Joe Scott
S1110	Busting Away Biofilm	

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Recognition

**Senior**      *Physics & Astronomy*

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Sean M Kennedy	Edgewood Jr/Sr High School	Mr. Ryan Cilsick
S1211	Reduction of Drag through Change in Wing Tip Style	

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Fourth Place

**Senior**      *Plant Sciences*

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Lily M Tucciarone	Edgewood Jr/Sr High School	Mr. Ryan Cilsick
S1310	Effect of Pre-Emergent and Foliar Application of Thuricide on Protein and Chlorophyll Content of <i>Salvia hispanica</i> and <i>Raphanus sativus</i>	

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Honorable Mention

***20 awards for Brevard: Intracoastal Region***

## Brevard: Mainland

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### Junior *Animal Sciences*

Lasya Damaraju	West Shore Jr. / Sr. High School	Ms. Mary Anderson
J0126	The Effect of Microbead Toxicity on Aquatic Organisms: Part II	

Third Place

### Junior *Biomedical & Health Sciences*

Kishen Mitra	West Shore Jr. / Sr. High School	Ms. Mary Anderson
J0328	Do Exercise Levels Affect Post-Concussion Recovery?	

Fourth Place

### Junior *Cellular/Molecular Biology & Biochemistry*

Sarah A Bahsoun	West Shore Jr. / Sr. High School	Ms. Mary Anderson
J0418	Does Miconazole Nitrate Affect Growth in Lipid Concentration in <i>Saccharomyces cerevisiae</i> ?	

Fourth Place

### Junior *Earth & Environmental Sciences*

Jordyn K Schaeffer	Lyndon B. Johnson Middle School	Mr. Greg Stauffer
J0628	Foram's Calcifying vs Ocean's Acidifying	

Recognition

### Junior *Engineering*

Kyle A Johnson	West Shore Jr. / Sr. High School	Ms. Mary Anderson
J0746	Does the Placement of a Propeller Blade on an Aircraft Affect Lift?	

Honorable Mention

### Junior *Environmental Engineering*

Kyle W Bramblett	Sculptor Charter School	Mrs. Paula Lossner
J0828	What is the Optimal Placement of Hard Shell Clams and Eastern Oysters, Based on Salinity Levels, to Maximize Filtration of Pollutants?	

Division Grand Award Winner And First Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

Matthew G Larracas	Cocoa High School	Mrs. Cynthia Hornby
J0914	Can a Personal Computer be Programmed to Fly a Quadcopter Autonomously and Perform a Task?	

First Place

### Junior *Mathematics & Computational Sciences*

Nathan Foo	West Shore Jr. / Sr. High School	Ms. Mary Anderson
J1015	A Comparison of Deterministic and Stochastic Numerical Models for Temperature Forecasting	

First Place

### Junior *Microbiology*

Taqwa J Naas J1119	West Shore Jr. / Sr. High School	Ms. Mary Anderson
<i>Pseudomonas fluorescens</i> to Bioremediate Oil at Different Salinities		

Third Place

**Junior**      *Physics & Astronomy*

Noah R Ogburn J1245	West Shore Jr. / Sr. High School	Ms. Mary Anderson
Can Synthetic Sharkskin Improve Aerodynamics and Reduce Drag of a Vehicle's Surface?		

Fourth Place

**Junior**      *Plant Sciences*

Asher G Dorfman J1330	West Shore Jr. / Sr. High School	Ms. Mary Anderson
The Effects of Allelopathy		

Fourth Place

**Senior**      *Animal Sciences*

River C Grace S0123	West Shore Jr. / Sr. High School	Ms. Mary Anderson
Shining a Light on the Blind: Evolutionary Regression and Adaptive Progression in <i>Ramphotyphlops braminus</i> , a Model for Understanding Brain Organization and Complex Neurological Disorders		

First Place

**Senior**      *Biomedical & Health Sciences*

Srimayi Tenali S0325	West Shore Jr. / Sr. High School	Ms. Mary Anderson
Portable Test for Urinary Detection of Kidney Disease		

Second Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Margarita Cruz-Sanchez S0433	West Shore Jr. / Sr. High School	Ms. Mary Anderson
Let There Be Light! rAAV Mediated Delivery of shRNA in a Canine Model of Autosomal-dominant Retinitis Pigmentosa		

Fourth Place

**Senior**      *Chemistry*

Kiera J Townsend S0519	West Shore Jr. / Sr. High School	Ms. Mary Anderson
Anode Materials in Microbial Fuel Cells		

Recognition

**Senior**      *Earth & Environmental Sciences*

Alexandra K Gabrielski S0633	Viera High School	Ms. Elizabeth Youngs
Algae....the Greener Fuel, Year Five		

Third Place

**Senior**      *Engineering*

Mamoon H Syed	West Shore Jr. / Sr. High School	Ms. Paula Ladd
S0736	Design of an Increased Efficiency UAV by Integrating a VTOL Platform with Fixed Wing Capabilities: Year II	

Fourth Place

**Senior**      *Environmental Engineering*

Mario R Sultan	West Shore Jr. / Sr. High School	Ms. Mary Anderson
S0826	Water Electrolysis for Fueling Vehicles	

Honorable Mention

**Senior**      *Intelligent Machines, Robotics, & Systems Software*

Jeremy W Gluck	West Shore Jr. / Sr. High School	Ms. Paula Ladd
S0915	Comparing Different Computational Models Including Multilayer Perceptrons Applied to a Binary Classification Problem	

Recognition

**Senior**      *Mathematics & Computational Sciences*

Muhammad U Abdulla	West Shore Jr. / Sr. High School	Ms. Paula Ladd
S1026	Stochastic Analysis in Biomedical Engineering: Identifying Acute Myocardial Infraction	

Second Place

**Senior**      *Microbiology*

Taylor A Jenko	Viera High School	Ms. Elizabeth Youngs
S1128	Does the Addition of Folate to <i>Saccharomyces cerevisiae</i> Serve as a Preventative and/or Corrective Treatment to DNA Damage Caused by Exposure to Ultraviolet Radiation?	

Third Place

**Senior**      *Plant Sciences*

Anna C Feldbush	West Shore Jr. / Sr. High School	Ms. Paula Ladd
S1328	The Correlation Between Artificial Oyster Reef Placement's Effect on Calcium Levels in the Indian River Lagoon by Assessing the Cell Wall Thickness of Mangroves: Year III	

Second Place

***22 awards for Brevard: Mainland Region***

## Brevard: South

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### Junior *Biomedical & Health Sciences*

Ritika Jeloka	Stone Magnet Middle School	Mr. Richard Regan
J0335	The Effects of Caffeine and Serotonin on the Rate of Neurotransmission in the Dicrod Roach, <i>Blaberus discoidalis</i>	

Division Grand Award Winner And First Place

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### Junior *Cellular/Molecular Biology & Biochemistry*

Pooja Shah	Stone Magnet Middle School	Mr. Richard Regan
J0421	The Effects of Green Tea Extract on Enzyme Activity	

Third Place

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### Junior *Earth & Environmental Sciences*

Anna Osborne	Stone Magnet Middle School	Mr. Richard Regan
J0634	Investigating the Antifouling Properties of Capsaicin vs a Nano-Scale Textured Surface	

Third Place

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### Junior *Engineering*

Jordan Kalajian	Hoover Middle School	Mrs. Pamela Schmiedeberg
J0753	Which Structure Will Hold the Ultimate Load?	

Fourth Place

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### Junior *Environmental Engineering*

William Giniewski	Hoover Middle School	Mrs. Pamela Schmiedeberg
J0830	To Filter or Not to Filter	

Recognition

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### Junior *Mathematics & Computational Sciences*

Wilson Burgos	Stone Magnet Middle School	Mr. Richard Regan
J1018	Modeling Disease Epidemiology Using StarLogo Nova	

Honorable Mention

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### Junior *Microbiology*

Elissa Bell	Stone Magnet Middle School	Mr. Richard Regan
J1121	A Comparison of the Antimicrobial Properties of Farmed Shrimp and Wild Shrimp on Gram Positive Bacteria	

Second Place

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### Junior *Physics & Astronomy*

Luke Fields	Stone Magnet Middle School	Mr. Richard Regan
J1252	Investigating the Ability of Non-Newtonian Fluids to Reduce Blunt Force Impact	

Fourth Place

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### Junior *Plant Sciences*

Jeanna Christenson J1335	Stone Magnet Middle School Enhancing Plant Growth Using an Invertebrate Based Aquaponics System	Mr. Richard Regan
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Recognition

**Senior**      *Animal Sciences*

Kiana M Padilla S0127	Palm Bay High School Analyzing the Effects of Plant Extracts on the Heartrate of Crayfish	Mr. Michael O'Donell
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Honorable Mention

**Senior**      *Behavioral & Social Sciences*

Devon M Murphy S0233	Palm Bay High School An Analysis of Alzheimers Linked through Aspartame on the Aminergic Control of Social Status in Crayfish Agonistic Encounters	Mr. Michael O'Donell
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Recognition

**Senior**      *Chemistry*

Daniella D Bernadel S0523	Palm Bay High School The Effects of Gibberellic Acid and Temperature on Macroalgal Lipid Content	Mr. Michael O'Donell
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Division Grand Award Winner And First Place

**Senior**      *Earth & Environmental Sciences*

Kenneth M West S0640	Melbourne High School Shade Balls	Mrs. Laura Zamora
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Fourth Place

**Senior**      *Environmental Engineering*

Gary G Turner S0829	Melbourne Central Catholic High School Projected Biological Air Renewal System in a Martian BioCapsule Environment: Testing Algae Oxygen Production to Utilize for Sustainable O2 Recycling	Ms. Candee Terry
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Third Place

**Senior**      *Intelligent Machines, Robotics, & Systems Software*

Logan Bolick S0918	Bayside High School Design and Construction of an Autonomous Tire Monitoring Robot	Mr. Aaron Mitchell
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Fourth Place

**Senior**      *Microbiology*

Ceili E Masterson S1132	Palm Bay High School The Presence, Species Composition, Antibiotic Resistance and Virulence Potential of Vibrio Bacteria from Commercially Purchased Brown Shrimp, <i>Farfantepenaeus aztecus</i>	Mr. Michael O'Donell
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Division Grand Award Winner And First Place

**Senior**      *Plant Sciences*

Whitney M Snyder S1332	Bayside High School Phytoremediation of Hydrocarbons Using <i>Cynodon dactylon</i>	Mr. Aaron Mitchell
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Honorable Mention

***17 awards for Brevard: South Region***

## Broward

### Junior *Animal Sciences*

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Gauri Kasarla	American Heritage School	Mrs. Leya Mathew Joykutty
J0115	The Effects of Barbados Cherries, Pomegranate, Shiitake Mushrooms, and Tetrahydroxystilbene-2-0-Beta_D Glucoside on the Inhibition of Oxidative Stress and the Production of Advanced of Glycation End Products (AGES) in <i>C. elegans</i>	

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Third Place

### Junior *Biomedical & Health Sciences*

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Kevin D Fiorillo-Berger	New River Middle School	Ms. Barbara Rapoza
J0319	PRAOS KC- Protective Robotic Anti-Accident Operational System Kid Care V2.0	

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Second Place

### Junior *Chemistry*

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Angelin T Mathew	Plantation Middle School	Dr. Rona Wolfson
J0521	Thirsty for BPA?	

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Fourth Place

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Sumaiya Rahman	Alazhar School	Mrs. Sameera Noor
J0522	Homemade Lead Detector	

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Second Place

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Janae A Simpson	Franklin Academy	Ms. Traci Lipman
J0523	How Does Salt Affect Hydrogen Gas Produced in Electrolysis?	

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Fourth Place

### Junior *Earth & Environmental Sciences*

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Diya K Jayram	Walter C. Young Middle School	Mrs. Alisa Smith
J0619	Save Nepal: A Study on Protection Efficiency of Multiple Vegetation Layers in Reducing Landslide Vulnerability	

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Honorable Mention

### Junior *Environmental Engineering*

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Nicholas Vallejo	Saint Mark the Evangelist Catholic School	Ms. Amanda Potenza
J0818	LEAD OFF: Finding The Best Electrolyte for a Fuel Cell	

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Fourth Place

### Junior *Plant Sciences*

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Rajat Ramesh	American Heritage School	Mrs. Leya Mathew Joykutty
J1319	Impact of Invasive Species Java Plum, Brazilian Pepper, Melaleuca, and Casuarina on the Growth of Lettuce, Tomato and Dandelion Seeds	

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Second Place

### Senior *Animal Sciences*



Elizabeth R Feldman	Pine Crest School	Ms. Jennifer Gordinier
S0112	DNA Barcoding Using ITS2 and COI Confirms Identification of <i>N. cepedianus</i> as a Single Species	

Fourth Place

Trishala Kumar	American Heritage School	Mrs. Leya Mathew Joykutty
S0113	The Anti Anti-angiogenic Potential of Peptides Extracted from <i>V.radiata</i> , <i>V. angularis</i> and <i>G. max</i> Using <i>Danio rerio</i> and <i>Gallus gallus</i> as Models for Cancer Therapeutics	

Recognition

**Senior** *Biomedical & Health Sciences*

Navya Baranwal	Miramar High School	Ms. Trisha Borrero
S0316	Leukemia Inhibitory Receptor Factor as a Tumor Suppressor in Breast Cancer	

Fourth Place

Juliette M Pozzuoli	Pine Crest School	Ms. Jennifer Gordinier
S0317	The Effects of Nociceptin Receptor Agonist, SR-8993 on Cocaine Addiction Related Behaviors	

Recognition

**Senior** *Cellular/Molecular Biology & Biochemistry*

Maryam Iqbal	West Broward High School	Mr. Nicholas White
S0422	Artificial Sweetener Damage and Repair to <i>Vigna radiata</i>	

Recognition

Zara E Joykutty	American Heritage School	Mrs. Dawn Gregor
S0423	A Novel Approach Toward Therapy of Triple Negative Breast Cancer: Combined Targeting of $\alpha 5$ and $\alpha V$ Integrins in Combination with Taxane-Based Chemotherapy	

Third Place

Yiyun Pan	American Heritage School	Mrs. Leya Mathew Joykutty
S0424	Engineering a High-affinity, BPTI Based Inhibitor of Human Alpha-Thrombin Using in Silico Molecular Modeling and Docking Studies	

Third Place

**Senior** *Chemistry*

Malini Basu	Pine Crest School	Ms. Jennifer Gordinier
S0511	Substrate Specificity of Dopamine and Ascorbic Acid via Cyclic and Differential Pulse Voltammetry Using Nitrogen Doped Porous Carbon and Graphene Modified Electrodes	

Third Place

Kelly Litts	Saint Thomas Aquinas High School	Mrs. Laura Shearer
S0512	The Effect of Catalyzation on Transesterification and the Difference in the Energy Efficiency of Biodiesel from <i>Jatropha curcas</i> Oil versus that of <i>Cocos nucifera</i> Oil	

Fourth Place

**Senior** *Earth & Environmental Sciences*

Nicole Odzer	Pine Crest School	Ms. Jennifer Gordinier
S0623	Toxicity of Naphthalene, a Polycyclic Aromatic Hydrocarbon, on <i>Porites divaricata</i> : The Effect of a Major Crude Oil Component on Thin Finger Coral and the Exploration of a Novel Passive Dosing Technique	

Third Place

Devin M Smith	South Broward High School	Ms. Larisa Spanu
S0624	Predicting El Nino-Celestial Events and Their Relation to Global Climate Patterns	

Recognition

**Senior**      *Engineering*

Juan A Cabrera	South Plantation High School	Mr. Gustavo Junco
S0728	A Step Forward into the Greener Future	

Fourth Place

Jubin Gorji	Pine Crest School	Ms. Jennifer Gordinier
S0729	A Portable Low-Cost Device Employing Recycled Synchronous Electric Motors to Generate Renewable Electricity	

Second Place

**Senior**      *Mathematics & Computational Sciences*

Jared M Geller	Pine Crest School	Ms. Jennifer Gordinier
S1016	Patterns in the Continued Fraction Expansions of Various Infinite Series	

Second Place

Suganth Kannan	American Heritage School	Mrs. Leya Mathew Joykutty
S1017	Innovative Enzymatic Model to Diagnose Disease and Provide Personalized Medicine	

Recognition

Padmavathi Reddy	American Heritage School	Mrs. Leya Mathew Joykutty
S1018	A Study of the Similarities Among Amino Acid Sequences of Paramyxoviridae Viral Strains	

Honorable Mention

**Senior**      *Microbiology*

Lauren K Enten	Saint Thomas Aquinas High School	Mrs. Laura Shearer
S1116	Leveraging the Antimicrobial Properties of <i>Jatropha curcas</i> in Suture Engineering	

Second Place

Hemangi Rajpal	American Heritage School	Mrs. Leya Mathew Joykutty
S1118	Assaying the Formation of Beneficial Biofilms by <i>L. acidophilus</i> , <i>S. thermophilus</i> , <i>L. lactis</i> and <i>L. mesenteroides</i> and the Effect of Ayurvedic Plant Extracts on Their Enhancement as a Potential Model to Limit Pathogen Growth	

Third Place

**Senior**      *Plant Sciences*

Nithya Kasarla	American Heritage School	Mrs. Leya Mathew Joykutty
S1316	Optimizing Cellulase RS and Macrozyme R-10 Ratios to Maximize Viable Protoplast Yield from <i>Oryza sativa</i> : Improving the Process of Creating Genetically Modified Peas	

First Place

***27 awards for Broward Region***

## Capital

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### Junior *Biomedical & Health Sciences*

Katherine N Lyons	Maclay School	Mrs. Mary King
J0334	Does a High-Fat Diet Affect <i>Drosophila melanogaster</i> ?	

Second Place

### Junior *Cellular/Molecular Biology & Biochemistry*

Akhil K Shiju	Deerlake Middle School	Mrs. Missy Atkinson
J0420	The Anaerobic Respiration by Yeast	

Recognition

### Junior *Earth & Environmental Sciences*

Brock H Womble	Deerlake Middle School	Mrs. Missy Atkinson
J0633	Fish Friendly Lakes: Conducting Water Quality Tests to Determine the Impact of Urbanization on Nonpoint Source Pollution Levels	

Fourth Place

### Junior *Engineering*

Nikolai D Abraimov	Deerlake Middle School	Mrs. Missy Atkinson
J0752	Model of a Warren Truss Bridge	

Recognition

### Junior *Mathematics & Computational Sciences*

Madeleine B Roberts	Maclay School	Mrs. Mary King
J1017	Cryptic Conspiracy: A Statistical Analysis of Possible Factors Driving the Value of Bitcoin	

Third Place

### Senior *Behavioral & Social Sciences*

Charles E Burney	North Florida Christian School	Mr. Eric Simpkins
S0230	Are Violent Video Games Teaching Anger and Socialized Aggression?	

Honorable Mention

### Senior *Cellular/Molecular Biology & Biochemistry*

Sampath Kumar	Lawton Chiles High School	Ms. Angela Breza-Pierce
S0438	Interactions between Histones and IDH Contribute to Childhood and Adult Glioblastoma Formation	

Fourth Place

### Senior *Chemistry*

Aditya Hota	James S. Rickards High School	Dr. Paula Hall
S0522	Piezoelectric Generation through Carbon Nanotube Thin Films.	

Second Place

### Senior *Earth & Environmental Sciences*

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Dhenu P Patel	Maclay School	Mrs. Mary King
S0639	Does BPA Affect <i>Artemia salina</i> ?	

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Recognition

**Senior**      *Mathematics & Computational Sciences*

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Sadhana S Ponnaluri	Maclay School	Mrs. Mary King
S1029	The Influence of Renal Transplant Type on a Patient's Post-Operation Survival: A Statistical Analysis	

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Fourth Place

*10 awards for Capital Region*

## Citrus

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### Junior *Animal Sciences*

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Elise M Leturno	Lecanto Middle School	Mrs. Rebecca Clymer
J0118	Chickens + Spanish Peanuts = Bigger Eggs?	

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Fourth Place

### Junior *Biomedical & Health Sciences*

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Ashlyn J Hunnicutt	Inverness Middle School	Mr. Steve Crandall
J0321	Round Two: Mozart vs. Metallica: Music Effects on Oxygen Saturation	

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Third Place

### Junior *Environmental Engineering*

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Joshua D Brunk	Inverness Middle School	Mrs. Nancy Shaffer
J0822	We've Got the Power, Solar Power!	

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Fourth Place

### Senior *Environmental Engineering*

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William B Merritt	Academy of Environmental Science	Mr. Ward Cooper
S0822	Glass Spheres For Reducing Surface Water Lost	

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Honorable Mention

***4 awards for Citrus Region***

## Clay Rotary

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### Junior *Animal Sciences*

Jack S Cooksey, Jr. J0123	Grace Episcopal Day School Phototaxis of Mosquitoes and Flies	Mrs. Susan Lindholm
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Honorable Mention

### Junior *Earth & Environmental Sciences*

Brogan O Covey-Shannon J0626	Green Cove Springs Junior High School Arduino Lawn Care	Mrs. Carrie Costello
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Third Place

### Junior *Engineering*

Sebastian Kouchakjy J0744	Lakeside Junior High School Testing Aerodynamics and Drag of 6 Rocket Fin Designs	Mr. Anthony Rodesney
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Third Place

### Senior *Engineering*

Nathan R Martus S0735	The Oakleaf School Measuring the Efficiency of Rapid Prototyping Using a 3D Printer	Miss Jennifer Butler
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Second Place

### Senior *Mathematics & Computational Sciences*

Zachary J Barken S1025	Clay High School An Analysis of the Gravitational Energy of Galactic Mass and Its Application to Dark Matter and Dark Energy	Mrs. Tracey Kumm
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Fourth Place

***5 awards for Clay Rotary Region***

## Collier

### Junior *Biomedical & Health Sciences*

Sydney M Edwards	Pine Ridge Middle School	Mr. Greg Anthony
J0303	Testing The Specific Carbohydrate Diet: Legal and Illegal Foods vs Amount of Sugar	

Third Place

Micah H Evans	North Naples Middle School	Mrs. Casey Mathis
J0304	Iron Man: What Effects Does Different Acidity Levels Have on the Speed of Iron Dissolving in the Stomach?	

Recognition

### Junior *Chemistry*

Madeline G Mair	Pine Ridge Middle School	Mr. Patrick Heath
J0508	Disposable Diapers: Are You Really Getting What You Paid For?	

First Place

### Junior *Earth & Environmental Sciences*

Alex R D'Arco	Pine Ridge Middle School	Mr. Patrick Heath
J0608	Potential Use of Tardigrades for the Presence of Acid Rain	

First Place

### Junior *Engineering*

Antonia M LoFranco	Pine Ridge Middle School	Mr. Gregory Anthony
J0715	Bridge Design vs Weight Sustained	

Honorable Mention

Sai T Rachumalla	East Naples Middle School	Ms. Carolyn Palumbo
J0716	Can it..Get A Grip?	

Recognition

Gareth J Rosal	East Naples Middle School	Ms. Carolyn Palumbo
J0717	Trouble with Turbines	

Fourth Place

### Junior *Environmental Engineering*

Sydney L Brisson	Pine Ridge Middle School	Mr. Brian Twar
J0805	The Drop that Changes The World	

Fourth Place

Nicholas F Costantini	Saint Ann School	Mrs. Katherine Farinacci
J0806	Silence Is Golden, But Can It Be Green?	

Third Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

Charles T Charles	Oakridge Middle School	Mrs. Georgette Wright
J0905	How Variations in Media Composition Affect Ultrasonic Wave Reflection	

Fourth Place



**Junior**

*Plant Sciences*

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Osei J.A Allen

Oakridge Middle School

Mrs. Deborah Eddleman

J1309

Does Landscaping Fabric Affect a Plant's Ability to Receive Water?

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Recognition

***11 awards for Collier Region***

## Dr. Nelson Ying Expo - Orange

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### Junior *Behavioral & Social Sciences*

Ella M Phillips J0216	International Community School Does Music Affect Your Running Pace?	Mrs. Terry Davis
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Recognition

### Junior *Cellular/Molecular Biology & Biochemistry*

Hannah F McGahey J0416	International Community School The Challenges and Barriers of Creating and Simulating an Artificial Pancreas	Mrs. Terry Davis
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Fourth Place

### Junior *Chemistry*

Eleanor R Rader J0529	Lake Eola Charter School Power in a Pinch	Mr. Bob Madewell
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Recognition

### Junior *Earth & Environmental Sciences*

Sophia L Fulbright J0623	International Community School The Effect or Aeration on Alkalinity and Phosphate Levels in Watering Troughs	Mrs. Terry Davis
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First Place

### Junior *Environmental Engineering*

Alaila R Champion J0824	International Community School WOW! Horse Poop is Powerful	Mrs. Terry Davis
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Recognition

### Junior *Intelligent Machines, Robotics, & Systems Software*

Mikhail Mikhaylov J0912	Union Park Middle School Can a Robot Make Its Own Decision?	Ms. Peggy Trapp
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Recognition

### Junior *Mathematics & Computational Sciences*

Ryan M Guarino J1013	Maitland Middle School The Effect of Household Items on WiFi Signal Strength	Dr. Anne Albright
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Recognition

### Junior *Microbiology*

Monet T Jowers J1115	Avalon Middle School Mangrove Bioprospecting for Endophytic Antibiotic Potential: <i>Avicenna germinans</i> , <i>Laguncularia racemosa</i> , and <i>Rhizophora mangle</i>	Mrs. Fadia Hussien
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Division Grand Award Winner And First Place

### Junior *Physics & Astronomy*

Matthew C Lynxwiler	Blankner K-8 School	Mrs. Jacqueline Bonner
J1239	Battle of the Axes: Comparing the Pitch of Electric Guitars: Gibson vs Fender	

Honorable Mention

**Junior** *Plant Sciences*

Uma A Menon	Florida Virtual School	Mrs. Kimberly Cloran
J1327	The Ferocious Yellow Dragon: Citrus Greening Disease	

First Place

**Senior** *Behavioral & Social Sciences*

Mehak Batta	Lake Highland Preparatory School	Mrs. Zasha A. Mickey
S0223	An Evaluation of Behavioral Changes in Nursing Best Practices as a Consequences of Structured Simulated Healthcare Environment Scenarios	

Second Place

Mackenzie T Brown	Lake Highland Preparatory School	Mrs. Zasha A. Mickey
S0223	An Evaluation of Behavioral Changes in Nursing Best Practices as a Consequences of Structured Simulated Healthcare Environment Scenarios	

Second Place

**Senior** *Biomedical & Health Sciences*

Stephany A Bustamante	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S0321	Platelet Estimation: A Semi-Quantitative Method Using the Miller Disc: Year II	

Honorable Mention

Alexa-Rae Wheeler	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S0321	Platelet Estimation: A Semi-Quantitative Method Using the Miller Disc: Year II	

Honorable Mention

**Senior** *Cellular/Molecular Biology & Biochemistry*

Millie Chokshi	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S0430	An Analysis of Ectopic Expression of microRNA's Targeting the Androgen Receptor on the Viability of Prostate Cancer Cells	

Recognition

**Senior** *Chemistry*

Saumya S Sao	Trinity Preparatory School	Mr. Michael Arney
S0515	Plasmon-driven p-nitrophenol Reduction with Anisotropic Au Nanoparticles for the Efficient Production of Paracetamol	

Third Place

**Senior** *Earth & Environmental Sciences*

Cathleen T Mestres	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S0628	Global Warming and El Niño Southern Oscillation Cycles Effect on Sea Turtles	

First Place

**Senior** *Engineering*

Amber Z Yang	Trinity Preparatory School	Mr. Michael Arney
S0732	Orbital Recognition System for Space Debris Tracking Using Artificial Neural Networks - A Journey from Inner Brain GPS to Outer Space GPS	

Division Grand Award Winner And First Place

**Senior**      *Environmental Engineering*

Whitney S Beamer	Lake Highland Preparatory School	Mrs. Zasha A. Mickey
S0825	Genome-wide Association Studies and the Identification of Markers for the Improvement of Traits in <i>P. deltoides</i>	

Fourth Place

**Senior**      *Microbiology*

Vrinda Madan	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S1123	Analyzing the Mechanisms of Actions of Highly Selective Anti-Malarial Compounds	

Second Place

**Senior**      *Physics & Astronomy*

Parker J Coye	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S1221	Breakage of SET Nanowires and Determination of the Resisting Constant for Multilayer Graphene	

First Place

**Senior**      *Plant Sciences*

Anjeli V Nandwani	Lake Highland Preparatory School	Mrs. Nicole A. Justice
S1324	The Effects of Azadirachta and <i>Dysphania ambrosiodes</i> on Whiteflies	

Third Place

***22 awards for Dr. Nelson Ying Expo - Orange Region***

## East Panhandle

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### Junior *Animal Sciences*

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Kadi Casey	Saint Mary Catholic School	Mrs. Laura McNeill
J0110	Web Worm Wars	

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Recognition

### Junior *Biomedical & Health Sciences*

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Calvin S Boole	Saint Mary Catholic School	Mrs. Laura McNeill
J0307	Concluding the Effects of Gluten Cross-Contamination between Food Product and Pan, as Well as Prevention Methods for Consumers	

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Third Place

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Makenzie J Marez	Liza Jackson Preparatory School	Ms. Tangela Frazier
J0308	Bisphenol-A Release Identification: The Effect of Exposure to Heat on the Release of BPA from Aluminum Cans	

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Second Place

### Junior *Cellular/Molecular Biology & Biochemistry*

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Alexandra Manion	Saint Mary Catholic School	Mrs. Laura McNeill
J0408	Effectiveness of Electrolysis on Sterilization and Circumferential Burns	

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Honorable Mention

### Junior *Chemistry*

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Ethan R Lindsay	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J0509	Real-Life Terminator Skin	

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Recognition

### Junior *Earth & Environmental Sciences*

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Joey T Enguidanos	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J0610	Toxins Effect on Daphnia	

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Recognition

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Elizabeth Ashli Everett	Davidson Middle School	Ms. Sharon Richardson
J0611	A Glow in the Dark Phenomena	

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Fourth Place

### Junior *Engineering*

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Grayson W Brobeck	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J0720	EMP Power	

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Second Place

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Dane D Dickerson	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J0721	Good Vibes: How Magnetic Suspension Reduces Vibrations	

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Second Place

Charles B Sherwin	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J0722	Cool It	

Third Place

**Junior**      *Environmental Engineering*

Caroline C Orcutt	Liza Jackson Preparatory School	Ms. Tangela Frazier
J0807	OMG - Oh My Gyres! A Study of Methods to Remove Ocean Trash	

Third Place

Eshaan Sharma	C. W. Ruckel Middle School	Mrs. Scarlett Brock
J0808	Fireproofing Textiles with <i>Zea mays</i> Ash	

Third Place

**Junior**      *Physics & Astronomy*

Emily S Daldine	Saint Mary Catholic School	Mrs. Laura McNeill
J1218	Imploding Bubbles	

Second Place

Mikayla A Lindsay	Okaloosa STEMM Academy	Mrs. Sarah Wilson
J1219	Self Folding Origami	

First Place

**Senior**      *Behavioral & Social Sciences*

Skylar C Dennis	Collegiate High School at NWFSC	Dr. Sean Psujeck
S0211	Efficacy on Self-Diagnosis	

Recognition

**Senior**      *Chemistry*

Liam A Ordner	Niceville High School	Mrs. Gina Emery
S0507	Maximizing Efficiency of Hot Electron Emission in Aqueous Colloidal Gold Nanoparticles	

Fourth Place

**Senior**      *Engineering*

Daniel C Bobbitt	Niceville High School	Mrs. Gina Emery
S0710	Go with the Flow - Manipulating the Components of a Tesla Turbine in Order to Better Apply Them to Certain Situations	

Second Place

Alexis R Hopkins	Fort Walton Beach High School	Ms. Devon Stewart
S0711	Optimal Optical: Visual Performance Enhancement Using a Trigger Detection System	

Recognition

**Senior**      *Environmental Engineering*

Camille A Miles	Niceville High School	Mrs. Gina Emery
S0808	Black Silicon Inflatable Hybrid Solar Power - A 3rd Year Study	

Fourth Place

**Senior**      *Plant Sciences*

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Lauren J Matthews	Niceville High School	Mr. Jeremiah Mayville
S1308	Evaluating the Potential of Micro Algae as an Inoculant for Pulses. Ideal Conditions for Indoor Farming: Year 4	

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Fourth Place

***20 awards for East Panhandle Region***

## Heartland

### Junior *Animal Sciences*

Emma R McGuckin J0116	Hardee Junior High School Do Various Amounts of Ammonium Sulfate Affect the Survival Rate of <i>Daphnia magna</i> ? Year Two	Mrs. Kimberly McGuckin
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Fourth Place

Mason J Price J0117	Avon Park Middle School Kill the Worms Two	Mr. Steven Manley
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Third Place

### Junior *Cellular/Molecular Biology & Biochemistry*

Rohin P Patel J0414	Hill-Gustat Middle School Fishy Business : Seafood Authentification by DNA Barcoding	Mrs. Kelsey Dean
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Second Place

### Junior *Chemistry*

Dylan W Davis J0524	Hardee Junior High School Does Temperature Affect Dairy Waste Decomposition in the Production of Biogas? Year Three	Mrs. Kimberly McGuckin
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Honorable Mention

### Junior *Plant Sciences*

Pate M Collins J1321	Sebring Middle School Is Dissolved Phosphorous (P) Removal by Water Hyacinth <i>Eichhornia crassipies</i> Affected by the Density of the Plants?	Ms. Sarah Miller
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Recognition

Karson J Goodwyn J1322	Hardee Junior High School Does the Cooking Method of <i>Brassica olerarea</i> (Broccoli) Affect the Vitamin C (Ascorbic Acid) Content ?	Mrs. Kimberly McGuckin
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Honorable Mention

Henry Juliano J1323	Sebring Middle School Hydroponics	Mrs. Donna Tomlinson
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Second Place

Dhruv Manik J1324	Hill-Gustat Middle School Roots from Fruits	Mrs. Kelsey Dean
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First Place

### Senior *Animal Sciences*

Zachary R Kielbasa S0114	Okeechobee High School Using Microfiber Towels to Control Hive Beetles	Mrs. Wendy Reister
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Honorable Mention

### Senior *Environmental Engineering*



Johnathan F Fox	Okeechobee High School	Mrs. Wendy Reister
S0820	Can a Process Developed Using FeCl <sub>2</sub> and CMC Treated Brazilian Pepper Fibers to Sequester Phosphates Also Sequester Nitrates ? A Third Year Study	

Recognition

**Senior**      *Microbiology*

Zackary D Durastanti	Hardee High School	Mr. Robert Beatty
S1119	What is the Antibiotic Effect on Gram Positive and Gram Negative Bacteria in a Magnetic Field ?	

Honorable Mention

Cady C McGehee	Okeechobee High School	Mrs. Wendy Reister
S1120	The Potential Sources of Contamination of <i>Mycoplasma bovis</i> on a Dairy Farm - A Three Year Study	

Third Place

**Senior**      *Physics & Astronomy*

Michael G Muros	Okeechobee High School	Mrs. Wendy Reister
S1217	Sound Deflection & Dispersion - Practical Application through Sound Production and Music	

Fourth Place

Donny N Stiner	DeSoto High School	Mr. Vladislav Solokah
S1218	Magnetic Attraction III	

Fourth Place

**Senior**      *Plant Sciences*

Mike Trevino	Hardee High School	Mr. Robert Beatty
S1318	Does an Electrical Current Affect the Growth of a Lima Bean ?	

Recognition

**15 awards for Heartland Region**

## Hernando

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### Junior *Animal Sciences*

Lane M Beck	Winding Waters K-8	Mrs. Julie Brady
J0130	<i>Apis mellifera</i> Drift	

Recognition

### Junior *Behavioral & Social Sciences*

Annelise Youngblood	Challenger K8	Mr. Greg Shaw
J0221	The Effect of Gender on Color Identification in Dim Light	

Recognition

### Junior *Chemistry*

Jake A Jasiak	Challenger K8	Mr. Greg Shaw
J0540	The Effect of Food Type on the Energy It Contains	

Recognition

### Junior *Earth & Environmental Sciences*

David P Marquis	Challenger K8	Mr. Greg Shaw
J0631	Reducing the Risk of Soil Liquefaction through Soil Improvement	

Second Place

### Junior *Engineering*

Connor R Pullen	Challenger K8	Ms. Colleen Doulk
J0750	How Does A Wing's Shape Affect Lift?	

Honorable Mention

Pearce B Whitaker	Methodist School Center	Mrs. Celeste Combs
J0751	Drive Safely	

Recognition

### Junior *Plant Sciences*

Maia I Truog	Challenger K8	Mr. Greg Shaw
J1334	Sprouting it Out! The Effect of Radiation on the Growth of Mung Beans	

Honorable Mention

### Senior *Earth & Environmental Sciences*

Emily M Carr	F.W. Springstead High School	Mr. Chris Ausicchio
S0637	The Effect of Reef Foundation on Ichthyofaunal Biodiversity off the Coast of Hernando Beach, Florida	

Honorable Mention

### Senior *Engineering*

Raleigh G Forbell	F.W. Springstead High School	Mr. Chris Auricchio
S0743	Stability Analysis on New Artificial Reef Design to Maximize the Conservation of Fish	

Recognition

***9 awards for Hernando Region***

## Hillsborough

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### Junior *Behavioral & Social Sciences*

SriVarsha Katoju	Williams Middle Magnet School	Mrs. Judy Grieco
J0211	OMG!!! It's a TEST!	

Third Place

Riya Patel	Williams Middle Magnet School	Mrs. Judy Grieco
J0211	OMG!!! It's a TEST!	

Third Place

### Junior *Biomedical & Health Sciences*

Ashwatha Suresh	Williams Middle Magnet School	Mrs. Judy Grieco
J0316	The Elixir of Youth	

Fourth Place

### Junior *Earth & Environmental Sciences*

Elizabeth I McCaffrey	Carrollwood Day School	Mrs. Carrie Prieto
J0618	Do Optical Brighteners in River Water Indicate Sewage Pollution?	

Recognition

### Junior *Environmental Engineering*

Samuel M Glow	Williams Middle Magnet School	Mrs. Judy Grieco
J0815	Comparative Analysis of Aquatic Flora for Water Quality Improvement in Hillsborough River Basin #5	

Honorable Mention

Aarush Prasad	Williams Middle Magnet School	Mrs. Judy Grieco
J0816	Can Algae Save the World?	

Fourth Place

### Junior *Microbiology*

Aksheta S Kanuganti	Carrollwood Day School	Mrs. Carrie Prieto
J1111	Fight Against Bacteria Using Chitosan Nanoparticles	

Third Place

### Senior *Behavioral & Social Sciences*

Carly S Rodriguez	Chamberlain High School	Mr. Michael Zanatian
S0216	Which of Aristotle's Rhetorical Appeals Is Judged by Adolescents to Be the Most Effective in Persuading Teenagers to Use Condoms?	

Fourth Place

### Senior *Biomedical & Health Sciences*

Sayyada Kazim	Tampa Bay Technical High School	Mr. Bryan Kelly
S0314	Discovery of Cancer Stem Cell Death and Inhibition of Colon Cancer Metastasis by Vitamin E Delta-tocotrienol	

Third Place

Mark A Laurie	Joe E. Newsome High School	Mr. Chad Rhode
S0315	The Development and Testing of a Possible New Promising Device that Can Detect Early Stages of Renal Cancer	

Fourth Place

**Senior** *Earth & Environmental Sciences*

Margaret K Parrish	Chamberlain High School	Mr. Michael Zanatian
S0621	Optimization and Field Testing of a Low-Cost Portable Enterococci Test (PET) Kit	

Second Place

**Senior** *Engineering*

Andrew T Butt	George S. Middleton High School	Dr. Metodija Stojanovski
S0726	The Effect of 3D Printing Infill on the Material Efficiency of a 3D Printed Bridge	

Fourth Place

**Senior** *Environmental Engineering*

Omar Gonzalez	Strawberry Crest High School	Mrs. Dianne Schroeder
S0816	Energy Through Solar Thermal Updraft	

Recognition

**Senior** *Plant Sciences*

Abraham Mathew	Strawberry Crest High School	Mrs. Dianne Schroeder
S1314	Factors that Affect the Photosynthetic Rate of an Aquatic Plant	

Recognition

**14 awards for Hillsborough Region**

## Indian River

### Junior *Animal Sciences*

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Olivia J Lazorik	Saint Edwards School	Mr. Les Rogers
J0106	Climate Change Problem: Effect of Ocean Acidification on the Growth and Coloration of <i>Lysmata wurdemanni</i>	

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Second Place

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Lucera E Long	Storm Grove Middle School	Mrs. Ashley Rollin
J0107	Goldilocks and the Three Termites	

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Honorable Mention

### Junior *Behavioral & Social Sciences*

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Sarah A Bickel	Storm Grove Middle School	Miss Carlean Browning
J0206	A Stroop Effect Twist: Measuring Teacher Distraction Using a Mislabeled List	

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Second Place

### Junior *Biomedical & Health Sciences*

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Elise Mallon	Saint Edwards School	Mr. Les Rogers
J0305	Correlation Among Cases of <i>Naegleria fowleri</i> in the United States	

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Recognition

### Junior *Earth & Environmental Sciences*

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Gustav C Brugger	Sebastian River Middle School	Ms. Patricia Schultz
J0609	The Effects of the Sebastian River on Phytoplankton Growth in the Indian River Lagoon	

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Third Place

### Junior *Engineering*

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James R Elford, IV	Sebastian Charter Junior High School	Mrs. Cathleen Tinder
J0718	Supercharged Sunlight	

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Second Place

### Junior *Mathematics & Computational Sciences*

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Jacob H Chesley	Saint Edwards School	Mr. Karl Leonhardt
J1006	Python Primes	

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Third Place

### Junior *Microbiology*

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Juan Camilo Olaya	Storm Grove Middle School	Mrs. Joan Martinelli
J1105	Effect of UV Radiation on the Survival of Bacteria	

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Honorable Mention

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Griffin M Wagner	Storm Grove Middle School	Mrs. Joan Martinelli
J1106	Impact of Chlorophyll Concentration Levels on the Proliferation of <i>Vibrio fischeri</i>	

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Third Place

### Junior *Physics & Astronomy*

Clara G Martin	Saint Edwards School	Mr. Les Rogers
J1215	The Effect of Oscillation Amplitude on the Voltage Produced by an Oscillating Water Column	

Second Place

Christopher S Powell	Saint Edwards School	Mr. Karl Leonhardt
J1216	Pitch Perfect Thrust	

Recognition

**Senior** *Animal Sciences*

Sana Shareef	Saint Edwards School	Dr. Kerryane Monahan
S0104	Electroantennographic Activity Bioassay of the Antennae of the Sri Lankan Weevil ( <i>Mylocerus undecimpustulatus undatus</i> Marshall) to Headspace Volatil	

Third Place

**Senior** *Behavioral & Social Sciences*

Lauder B Fairchok	Saint Edwards School	Dr. Kerryane Monahan
S0208	Effects of Male and Female Stock Density on Nighttime Courtship Behaviors on <i>Hippocampus erectus</i>	

Fourth Place

**Senior** *Earth & Environmental Sciences*

Nikki S Bouldin	Vero Beach High School	Mrs. Heather L. Holden
S0611	Analyzing Algae Growth Using Geometric Methods	

Honorable Mention

**Senior** *Environmental Engineering*

Omar Shareef	Saint Edwards School	Dr. Kerryane Monahan
S0806	The Recording and Replication of Psylid, <i>Diaphorina citri kuwayama</i> , Communication Frequencies	

Second Place

**Senior** *Physics & Astronomy*

David Gambee	Saint Edwards School	Dr. Kerryane Monahan
S1206	Magnetically Separating Fluids	

Third Place

Martha A Grudens	Sebastian River High School	Mrs. Karyn Daniel
S1207	Vortex Generators and Their Effect on Airfoils	

Second Place

Brian A Mills	Vero Beach High School	Mrs. Heather L. Holden
S1208	Capability of Modern Technology to Detect Exoplanets Orbiting a Black Hole	

Second Place

Spencer Toll	Vero Beach High School	Mrs. Heather L. Holden
S1208	Capability of Modern Technology to Detect Exoplanets Orbiting a Black Hole	

Second Place

**Senior**      *Plant Sciences*

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Alexi K Dong	Indian River Charter High School	Mrs. Sarah Rhodes-Ondi
S1305	A Comparative Study on the Growth of <i>Lactuca sativa</i> Using LED Lighting and Flourescent Lighting While Utilizing Nontraditional Photoperiods	

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Third Place

***20 awards for Indian River Region***



## Lake

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### Junior *Physics & Astronomy*

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Luke Burris	Tavares Middle School	Ms. Joanie Westmoreland
J1221	The Cause of Wave Particle Duality Inconsistency	

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Second Place

*1 awards for Lake Region*

## Lockheed Martin Manatee

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### Junior *Physics & Astronomy*

Britton D Ricks	R. Dan Nolan Middle School	Ms. Kristen Coats
J1210	Take Aim	

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Recognition

### Senior *Environmental Engineering*

Jason L Edelkind	Manatee High School	Mrs. Christine Laurie
S0803	The Removal of Aqueous Heavy Metals by Hyperaccumulating Plants	

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Fourth Place

### Senior *Mathematics & Computational Sciences*

Anna M Zimmerman	Braden River High School	Ms. Marybeth Witham
S1004	A Method of Encoding and Decoding Information in DNA Sequences that Includes Error Correction	

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Recognition

### Senior *Physics & Astronomy*

Colton C Lewis	Bradenton Christian School	Mr. Ben Holt
S1202	Cooling the Charge	

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Recognition

***4 awards for Lockheed Martin Manatee Region***

## Martin

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### Junior *Animal Sciences*

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Kyle T Ramos	St. Joseph Catholic School, Stuart	Mrs. Norma Kuehn
J0124	Squid Pops, Anyone?	

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Honorable Mention

### Junior *Engineering*

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Viraj Singh	Dr. David L. Anderson Middle School	Mrs. Carla Viands
J0745	WiFi - Low or High?	

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Fourth Place

### Junior *Environmental Engineering*

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Rohan S Jakhete	Murray Middle School	Mrs. Michelle Jerrells
J0826	Electro-Precipitation: An Alternative Water Softening Process?	

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Second Place

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Alfredo Gonzalez-Tax	Indiantown Middle School	Ms. Anna Jolie
J0827	Two Solutions In the Bag	

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Recognition

### Senior *Animal Sciences*

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Shantanu Jakhete	South Fork High School	Ms. Lauren Case
S0121	Novel Mosquito Control: A Chemical-free, Low-Cost Approach for <i>Aedes aegypti</i> Reduction	

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Second Place

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Tarun Neelavannan	South Fork High School	Mrs. Linda J. Stitely
S0122	Inhibition/Extermination of the <i>Nylanderia fulva</i> and <i>Solenopsis invicta</i> Species of Ants	

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Honorable Mention

### Senior *Intelligent Machines, Robotics, & Systems Software*

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Varun A Lakshmanan	South Fork High School	Mrs. Linda J. Stitely
S0913	Keep Your Eyes on the Road: Preventing Smartphone Related Walking Accidents through an iOS Application	

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Honorable Mention

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Caroline G Nolan	Jensen Beach High School	Mr. Michael Thurman
S0914	15 is too 011011000110000 (Late) A Gender Specific STEM Prototype	

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Third Place

***8 awards for Martin Region***

## Monroe

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### Junior *Chemistry*

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Jesse J Ferrante J0511	Treasure Village Montessori School Would I Swim in that Water?	Mrs. Bobbi Burson
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Third Place

### Junior *Engineering*

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Grace B Matthews J0725	Treasure Village Montessori School Demonstrating the Concept of Self Assembly Using Hydro-fold Technology	Mrs. Bobbi Burson
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Third Place

***2 awards for Monroe Region***

## Northeast Florida

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### Junior *Biomedical & Health Sciences*

Izabelle J Young	San Jose Catholic School	Mrs. Carla Chin
J0314	Heavy Metal Hookah?	

First Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

John Blake Caven	Julia Landon College Preparatory Middle School	Mr. Chris Johnson
J0910	Exploring Machine Learning: The Effect of a Genetic Algorithm on Lacrosse Simulation Game Play	

Third Place

### Junior *Physics & Astronomy*

Neha Sonthi	James Weldon Johnson College Preparatory Middle School	Mrs. Jeanne Murphy
J1227	The Effect of Mass of a Meteorite on the Ejecta of the Crater	

Second Place

MaryAlice D Young	San Jose Catholic School	Mr. Patrick Madigan
J1228	Creating an Electromagnetic Field Strong Enough to Simulate Earth's Gravity in Space	

Division Grand Award Winner And First Place

John P Cratem	San Jose Catholic School	Mrs. Carla Chin
J1229	The Energy Efficient Light Bulb	

Recognition

Jack W Brophy	San Jose Catholic School	Mr. Patrick Madigan
J1230	Strengthening and Extending Radio Wave Range with Liquids	

Third Place

Grant F Reidy	San Jose Catholic School	Mr. Patrick Madigan
J1231	Do Cell Phones Emit Raditation	

Fourth Place

### Junior *Plant Sciences*

Sreelalipriya Duvuuri	Darnell Cookman Middle/High School of Medical Arts	Mrs. Barbara Matteson
J1318	How Does Temperature Affect the Rate of Cell Respiration of Pea Seeds?	

Third Place

### Senior *Animal Sciences*

Hannah N Lee	The Bolles School	Dr. Kathryn Halloran
S0110	Spotted wing Drosophila, Baiting and Trapping	

Second Place

### Senior *Biomedical & Health Sciences*

Lindsay S Poulos	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0312	The Effects of E-cigarette Vapor on <i>Drosophila melanogaster</i>	

Fourth Place

Rylee E Schroder	Bishop Kenny High School	Mrs. Vicki Schmitt
S0313	Pressure Distribution in Ballet Pointe Shoes	

Honorable Mention

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Zachary R Adam	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0419	Urinary Metabolomics: Using Mass Spectrometry to Identify Biomarkers for an Early Detection of Kidney Cancer	

Recognition

Courtney A Crawford	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0419	Urinary Metabolomics: Using Mass Spectrometry to Identify Biomarkers for an Early Detection of Kidney Cancer	

Recognition

Erisa Gjoka	Bishop Kenny High School	Mrs. Vicki Schmitt
S0420	Creating Bioplastics	

Honorable Mention

Nicolina C Graves	Bishop Kenny High School	Mrs. Vicki Schmitt
S0420	Creating Bioplastics	

Honorable Mention

**Senior**      *Earth & Environmental Sciences*

Bettina B Huang	Stanton College Preparatory School	Ms. Tamla Simmons
S0619	The Effect of Time of Day and Depth on St. Johns River Quality Data Collection	

Fourth Place

**Senior**      *Engineering*

Howard A Royce	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0723	The Effect of Compression and Tension in a Bolted System	

Recognition

Chang Yang	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0724	Attaching Microlens Array to Biohybrid Solar Cell to Improve Its Energy Conversion Efficiency	

Third Place

Tara M Martin	Episcopal School of Jacksonville	Ms. Marion Zeiner
S0725	Biomechanical Energy Harvesting from Respiration Utilizing Piezoelectric Materials and Frequency up Conversion to Power Wearable Microelectronics	

Fourth Place

**Senior**      *Mathematics & Computational Sciences*

Colbi Appleby	Paxon School for Advanced Studies	Ms. Emma Gallagher
S1012	Defining Computational Relationships between an Additional Variable's Set of Algorithms and the Group of Variables within Trapdoor One-way Functions	

Recognition

Victoria L Ge	Stanton College Preparatory School	Dr. Rajasekhar Narisetty
S1013	Modeling Gene Transfer and Its Impact on Antibiotic Resistance	

Honorable Mention

Madison Lee	Stanton College Preparatory School	Dr. Rajasekhar Narisetty
S1013	Modeling Gene Transfer and Its Impact on Antibiotic Resistance	

Honorable Mention

Isaiah M Nields	Episcopal School of Jacksonville	Ms. Marion Zeiner
S1014	Computer Vision Algorithm for Quantifying Motion	

Third Place

**Senior**      *Microbiology*

Devanik Biswas	Stanton College Preparatory School	Ms. Tamla Simmons
S1112	A Novel Alternative for Antibiotics: Analysis of the Effects of Eugenol-containing Aetherolea on Zones of Inhibition of <i>Escherichia coli</i> and <i>Staphylococcus epidermidis</i>	

Honorable Mention

Shreyas K Chetan	The Bolles School	Dr. Kathryn Halloran
S1113	Turmeric - A Good Treatment for Skin Wounds	

Honorable Mention

**Senior**      *Physics & Astronomy*

William G Canty	Bishop John J. Snyder High School	Mrs. Christine Morrow
S1214	The Effects of Distance and Halogen Bulb Power on Radiation Transfer	

Honorable Mention

Victoria L Su	Stanton College Preparatory School	Ms. Tamla Simmons
S1216	The Radioactivity of ProtonIrradiated Materials II	

Third Place

**Senior**      *Plant Sciences*

Zachary C Zeller	Episcopal School of Jacksonville	Ms. Marion Zeiner
S1311	The Effects of <i>Arboscular mycorrhizal</i> Fungi on the Salt Tolerance of Hydroponically Cultivated <i>Beta vulgaris</i> and <i>Rosmarinus officinalis</i>	

Third Place

Evan B Loadholtz	Bishop Kenny High School	Mrs. Vicki Schmitt
S1312	The Effect of Irradiation and Full Spectrum GrowLights on the Growth and Development of Sea Island Cotton	

Second Place

***29 awards for Northeast Florida Region***

## Osceola

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### Junior *Animal Sciences*

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Sydney K. Kochensparger J0101	Neptune Middle School How Does the Oyster Affect the Shell?	Mr. Allyn Short
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Honorable Mention

### Junior *Engineering*

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William M. Crudo J0702	Celebration K-8 School The Race to Build a Better R.O.C.K.E.T. (Really Overcomplicated Kinetic Energy Tube)	Mr. Brian Glasby
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Fourth Place

### Junior *Mathematics & Computational Sciences*

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Arseny Kuzmin J1002	Celebration K-8 School Apeirohedra: The World Beyond the Plane	Mr. Allyn Short
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Fourth Place

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Sophia Zavada J1002	Celebration K-8 School Apeirohedra: The World Beyond the Plane	Mr. Allyn Short
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Fourth Place

### Junior *Physics & Astronomy*

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Darren W. McCleery J1202	Neptune Middle School Power Up	Mrs. Karen Perry
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Recognition

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Samuel R. Lewis J1203	Celebration K-8 School Go for Launch!	Mrs. Odalys Perez
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Fourth Place

***6 awards for Osceola Region***



## Palm Beach

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### Junior *Behavioral & Social Sciences*

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Helen F. Peluso	Alexander D. Henderson University School	Miss Suzette Milu
J0201	Can Confidence in One's Own Short Term Memory Be Faulted By the Introduction of Peer Pressure in a Factually Based, Test Type Scenario?	

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First Place

### Junior *Chemistry*

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Elise J. Weber	Bak Middle School of the Arts	Ms. Tracy Smith
J0501	The Effect of Low Toxicity Metal Salt Mordants on Natural Dye Colors: A Solution for Eco-friendly Textiles	

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Third Place

### Junior *Earth & Environmental Sciences*

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Rachel Rosenberg	Watson B. Duncan Middle School	Ms. Nicole Freseman
J0601	Light Refraction in Salt Water	

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Second Place

### Junior *Engineering*

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Devin R. Willis	Alexander D. Henderson University School	Mrs. Robin Barks
J0704	Can You Build a Modular Low Cost Robotics Platform for Cellular Experiments with Microscopic Precision?	

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First Place

### Junior *Intelligent Machines, Robotics, & Systems Software*

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Priscilla L. Lambert	St. Ann Catholic School	Mrs. Jamie Cleary
J0901	A Helping, Heartfelt Hand	

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Third Place

### Junior *Mathematics & Computational Sciences*

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Tesla X. Radulovic	Loggers' Run Middle School	Mr. James Byrd
J1003	Sin(x), Cos(x) and Speech Recognition	

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Second Place

### Junior *Physics & Astronomy*

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Ryan A. Alea	Omni Middle School	Mrs. Elaine Gibbard
J1201	Tidal Barrage - Ride the Waves!	

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Recognition

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Jacques Coury	Bak Middle School of the Arts	Ms. Tracy Smith
J1206	Aircraft Efficiency Modification: Applications of Physics to Aerodynamics	

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Third Place

### Junior *Plant Sciences*

Christina Cross	The Weiss School	Mr. Kevin Simmons
J1301	Growing Algae in Space Efficiently	

Fourth Place

William Bartenslager, III	Western Pines Middle	Mr. Wesley Terrell
J1302	Which Rice Cultivar Can Survive Flooding?	

Third Place

**Senior**      *Animal Sciences*

Jessica E. Young	Palm Beach Central High School	Mr. William Bartenslager
S0101	The Effects of Potassium Chloride and Experimental Temperature on Florida Apple Snail Development and Exhibition of Predator Avoidance Behavior	

Third Place

Amy Polen	Palm Beach Central High School	Mr. William Bartenslager
S0102	The Effect of Water Temperature on the Mussel's Byssal Thread Adhesive Properties: Tenacity, Protein Composition, and Attachment Strength with the Introduction of Enzymes	

Fourth Place

**Senior**      *Behavioral & Social Sciences*

Srijith Nair	American Heritage School of Boca/Delray	Dr. Brian Ramos
S0201	Antioxidant Properties in Indian Gooseberries to Improve Cognitive Functions in Rats	

Third Place

Lila Mish	American Heritage School of Boca/Delray	Dr. Brian Ramos
S0202	Is Stress the New Drug? An Analysis on Meditation's Effects on the Addicted Brain, Stress Perception, and Prefrontal Cognitive Function	

Third Place

**Senior**      *Biomedical & Health Sciences*

Lindsay K. Placius	Palm Beach Central High School	Mr. William Bartenslager
S0301	Determining the Effect of Extracellular Matrix on the Differentiation and Functionality of Stem Cells for Bioengineering Organs.	

Division Grand Award Winner And First Place

Gabrielle R. Marvez	Seminole Ridge High School	Mrs. Lyn Slygh
S0302	Post Translational Modifications of Kinesin in <i>Aplysia californica</i>	

Fourth Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

Aashay Patel	American Heritage School of Boca/Delray	Dr. Brian Ramos
S0402	The Effects of NT3 and HuR on Neurodevelopment	

Honorable Mention

**Senior**      *Chemistry*

Jacqueline S. Chen	Suncoast Community High School	Mr. Jeffrey Laufer
S0501	Improving Cuprous Iodide Method for Mercury Detection	

Honorable Mention

Nathan L. Blood	Palm Beach Gardens High School	Mrs. Kathy Roberts
S0502	Nathan's Equilibrium Equation: An Efficient Alternative to ICE Tables	

Fourth Place

**Senior**      *Earth & Environmental Sciences*

Celinie M. Nguyen	Palm Beach Central High School	Mr. William Bartenslager
S0601	Soil Remediation through the Use of Nutrient-based Nanocomposite Hydrogels	

Third Place

Maria Elena Grimmett	Oxbridge Academy of the Palm Beaches	Dr. Teresa Thornton
S0602	H2O <sub>h</sub> No: Pharmaceuticals Contaminate Groundwater! Sulfamethazine Adsorption onto Hypercrosslinked Polymer MN250 with Dissolved Humic Acid	

Second Place

Jonathan C. Chin Cheong	Florida Atlantic University High School	Mrs. Robin Barks
S0603	Applying Acute Toxicity Testing Techniques to Evaluate the Ecotoxic Contributions of Impermeable Surfaces on Urban Water Quality	

Fourth Place

**Senior**      *Engineering*

Jason S. Kaufmann	Suncoast Community High School	Mr. Jeffrey Laufer
S0702	Dynamics of 3D Printing: Reactor3D	

Third Place

Hannah D. Herbst	Florida Atlantic University High School	Mrs. Robin Barks
S0703	Bringing Electricity Access to Countries through Ocean Energy: BEACON Combatting Energy Poverty through the Development of a Novel Ocean Energy Probe	

Second Place

**Senior**      *Environmental Engineering*

Stefan Wan	Alexander W. Dreyfoos School of the Arts	Mr. Michael Rathe
S0801	Functionalizing Biochar with Layered Double Hydroxides for Phosphate Removal from Aqueous Solutions	

Division Grand Award Winner And First Place

Vithulan Sai Suthakaran	Florida Atlantic University High School	Mrs. Robin Barks
S0802	How Can PVC Be Sufficiently Utilized in Order to Retrieve Oil from the Gulf of Mexico?	

Fourth Place

**Senior**      *Intelligent Machines, Robotics, & Systems Software*

Alexis M. Base	Florida Atlantic University High School	Mrs. Robin Barks
S0902	Formulating Different Detection Algorithms to Identify Invasive Red Lionfish in South Florida and the Bahamas	

Second Place

**Senior**      *Microbiology*

Jada M. Campbell	American Heritage School of Boca/Delray	Dr. Brian Ramos
S1101	The Evaluation of Moringa Leaf Extract for Its Antibacterial Properties Against <i>Enterococcus faecalis</i>	

Fourth Place

Nikita P. Bozicevic	Palm Beach Central High School	Mr. William Bartenslager
S1102	Biofilm Reduction in <i>Escherichia coli</i> and <i>Citrobacter freundii</i>	

Fourth Place

Julia A. Barquin	American Heritage School of Boca/Delray	Dr. Brian Ramos
S1103	The Inhibitory Effects of Resveratrol on Biofilm Formation and Planktonic Growth of <i>Streptococcus Mutans</i>	

Fourth Place

**30 awards for Palm Beach Region**

## Pasco

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### Junior *Animal Sciences*

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Riya T Choksi J0122	Seven Springs Middle School Fruit Fly Frenzy: Effect of Trimethylxanthine on <i>Drosophila melanogaster</i>	Mr. Del Giacco
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Fourth Place

### Junior *Behavioral & Social Sciences*

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Katie E McCormick J0217	Academy at the Lakes The Effects of Meditation on Behavior and Cognition	Mrs. Colleen McCormick
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Honorable Mention

### Junior *Chemistry*

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Drew C Burgess J0532	Charles S. Rushe Middle School The Effect of Dye on Hair Strength	Mrs. Joy Naar
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Recognition

### Junior *Earth & Environmental Sciences*

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Madeline Murch J0625	Bishop Larkin Catholic School Comparison of Tide Models for a Gulf of Mexico Inlet using Data from Nearby Tide Gauges	Ogechi Offurum
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Honorable Mention

### Junior *Engineering*

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Alyssa N Perez J0741	Centennial Middle School Regaining Power	Mrs. Jessica Maxwell
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Fourth Place

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Achyudhan R Kutuva J0742	Dr. John Long Middle School The Use of <i>Escherichia coli</i> to Increase Hydroelectric Production	Mrs. Elizabeth Pryor
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Second Place

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Charles E Reedy J0743	Crews Lake Middle School Clean Energy Sources	Ms. Laura Hull
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Third Place

### Junior *Physics & Astronomy*

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Sarah A Menard J1242	Charles S. Rushe Middle School How Seismic Waves are Affected by Surface Terrain When Impacted by a Meteor	Mr. Steven Williams
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Fourth Place

### Senior *Biomedical & Health Sciences*

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Regan L McCormick S0323	Academy at the Lakes A Multi-generational Study on the Effects of Sucralose, Aspartame & Saccharin on <i>Drosophila melanogaster</i>	Mrs. Colleen McCormick
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Recognition

**Senior**      *Cellular/Molecular Biology & Biochemistry*

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Anmol Warman	Academy at the Lakes	Mrs. Colleen McCormick
S0431	Probiotic Bacteria: A Novel Way to Provide Robust, Efficient, and Safe Treatment of Ademocarcinoma	

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Fourth Place

**Senior**      *Mathematics & Computational Sciences*

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Pranav I Warman	Academy at the Lakes	Mrs. Colleen McCormick
S1024	Mathematical Modelling of Metastatic Prostate Cancer	

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First Place

**Senior**      *Physics & Astronomy*

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Roshan Warman	Academy at the Lakes	Mrs. Colleen McCormick
S1223	Spintronics Circuits: The Building Blocks of Spin-based Computation	

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Third Place

***12 awards for Pasco Region***

## Pinellas

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### Junior *Behavioral & Social Sciences*

Ethan J Moore	Saint Cecelia Interparochial School	Ms. Heather Manter
J0212	Targeting the Subconscious	

Honorable Mention

### Junior *Biomedical & Health Sciences*

Emily A Wilson	Espiritu Santo Catholic School	Mrs. Barbara Bivens
J0320	JUICE-C?	

Fourth Place

### Junior *Cellular/Molecular Biology & Biochemistry*

Matthew S Boutot	Espiritu Santo Catholic School	Mrs. Barbara Bivens
J0415	Fuel for the Future	

Fourth Place

### Junior *Chemistry*

Miranda Heaps	Our Lady of Lourdes Catholic School	Mrs. Teresa Lynn
J0525	Battle of the Batteries	

Honorable Mention

Anna J Jones	Shorecrest Preparatory School	Mr. Curtis Cruise
J0526	Are Countertops Safe?	

Honorable Mention

### Junior *Environmental Engineering*

Sophia Hicks	Canterbury School of Florida	Ms. Laura Fauver
J0819	The Effect of the Volume of Ferrofluid on the Volume of Oil Cleaned Up From a Marine Oil Spill	

Honorable Mention

### Junior *Physics & Astronomy*

Alexander N Opyrchal	Saint Cecelia Interparochial School	Ms. Heather Manter
J1236	Lithium Ion Battery Cycle Optimization	

Third Place

### Junior *Plant Sciences*

Evelyn A Vaughan	Saint Cecelia Interparochial School	Ms. Heather Manter
J1325	How Does Colored Light Affect the Process of Photosynthesis in Wisconsin Fast Plants?	

Fourth Place

### Senior *Physics & Astronomy*

Connor J Friel	CAT/ Lakewood High School	Mr. Paul H. Dickman
S1219	The Effect of Fin Size of a Rocket on Maximum Vertical Displacement	

Honorable Mention

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Nikhil Sharma	CAT/ Lakewood High School	Mr. Paul H. Dickman
S1219	The Effect of Fin Size of a Rocket on Maximum Vertical Displacement	

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Honorable Mention

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Richard L Copenhaver	CAT/ Lakewood High School	Mr. Paul H. Dickman
S1220	Fetching Fletching	

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Recognition

***11 awards for Pinellas Region***



## Polk

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### Junior *Animal Sciences*

Sophia T Castrillon J0121	Saint Joseph Academy The Efficacy of Entomopathogenic Nematodes for Control of Ambrosia Beetles	Mrs. Deena Porter
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Third Place

### Junior *Biomedical & Health Sciences*

Matthew B Werd J0326	Resurrection Catholic School Heads Up!	Mrs. Lisa Schaal
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Fourth Place

### Junior *Chemistry*

Zoe A Parker J0530	Lakeland Highlands Middle School Water and Electricity DO MIX	Mrs. Leslie Donker
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Second Place

### Junior *Earth & Environmental Sciences*

Elizabeth K Lovely J0624	Resurrection Catholic School A Foundation of Radiation	Mrs. Lisa Schaal
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Fourth Place

### Junior *Mathematics & Computational Sciences*

Gabrielle M Schaal J1014	Resurrection Catholic School The Popped Paradox	Mrs. Lisa Schaal
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Recognition

### Senior *Animal Sciences*

Jacob Fuller S0119	Lakeland Christian School Cu Later: Investigating Aversion Behavior in Channel Apple Snail	Mrs. Jennifer Canady
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Recognition

### Senior *Chemistry*

Jasper L Montgomery S0516	International Baccalaureate School at Bartow High Optimization of Hollow Gold Nanoparticles for Photothermal Ablation Therapy of Cancer	Mrs. Debbie Kennon
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Honorable Mention

### Senior *Mathematics & Computational Sciences*

Grady G Daniels S1022	International Baccalaureate School at Bartow High Genetic Algorithms: Theory and Demonstration	Mrs. Debbie Kennon
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Fourth Place

### Senior *Microbiology*

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Matthew D Klapprott	International Baccalaureate School at Bartow High	Mrs. Debbie Kennon
S1124	ACNE OUT II	

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Recognition

**Senior**      *Plant Sciences*

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Julia G Canady	Lakeland Christian School	Mrs. Jennifer Canady
S1325	Weed Warfare: Investigating Allelopathy Year 6	

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Second Place

***10 awards for Polk Region***

## Sarasota

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**Senior**      *Behavioral & Social Sciences*

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Kiana E Knuth	Sarasota High School	Mr. Andrew Harshman
S0213	Testing the Effects of the BET Inhibitor JQ1 on the Memory of <i>Dardanus calidus</i>	

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Second Place

**Senior**      *Cellular/Molecular Biology & Biochemistry*

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Aubrey G Kilduff	Sarasota High School	Mr. Andrew Harshman
S0412	Effects of Mild Traumatic Brain Injury on the Visual System of Mice	

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Second Place

***2 awards for Sarasota Region***

## Seminole

### Junior *Chemistry*

Matthew K Shanosky J0536	Greenwood Lakes Middle School Does Increasing the Number of Cells in A Saltwater Battery Increase its Power?	Mr. Nick Mallay
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Third Place

### Junior *Earth & Environmental Sciences*

Katelyn R Spurlock J0629	Jackson Heights Middle School Emergency Nation Desalination	Mrs. Melaine Francher
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Fourth Place

### Junior *Engineering*

Lena M Stadler J0747	Jackson Heights Middle School Is His Bite Worse Than His Bark	Ms. Kathleen Moreno
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Honorable Mention

### Junior *Environmental Engineering*

Milana Mudra J0829	Millennium Middle School Fruit Peel Paper-Making	Ms. Tina Lewis
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Third Place

### Junior *Mathematics & Computational Sciences*

Jenna M Blanchard J1016	Sanford Middle School Math, Music Connections: The Mathematical Beauty of Music	Mrs. Kim Coleman
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Fourth Place

### Junior *Physics & Astronomy*

Ashton K Fields J1246	Indian Trails Middle School Temperature Impact on the Air Pressure of Footballs	Mrs. Alexis Holt
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Honorable Mention

### Senior *Behavioral & Social Sciences*

Nikhil S Patel S0225	Oviedo High School Craniometrix: Innovations to Fight Alzheimer's, Year 4	Ms. Kathy Savage
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Division Grand Award Winner And First Place

Heather M Ajila S0226	Crooms Academy of Information Technology The Effect of Class Engagement on Student Test Scores	Mrs. Vanessa Moosavifazel
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Honorable Mention

Zkyirea Z Lawrence S0226	Crooms Academy of Information Technology The Effect of Class Engagement on Student Test Scores	Mrs. Vanessa Moosavifazel
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Honorable Mention

### Senior *Biomedical & Health Sciences*

Chethani B Chitraacharige	Seminole High School	Ms. Ramsey Robinson
S0326	Modifying Papaya Proteinase I to Inhibit the c-Ha-ras Oncogene in <i>Anthurium andraeanum</i> in Order to Reduce the Risk of Gastric Carcinoma	

Third Place

Sapna K Patel	Oviedo High School	Ms. Kathy Savage
S0327	Meemo: An Autism Destroying Avatar, Year 2	

Fourth Place

**Senior** *Cellular/Molecular Biology & Biochemistry*

Tess A Marvin	Paul J. Hagerty High School	Mrs. Sarah Evans
S0435	Ribosomal Ribonucleic Acid Targeting Using Small Ribonucleic Acid as a Potential Antimicrobial	

Division Grand Award Winner And First Place

Rafi Hessami	Lake Mary Preparatory School	Dr. Tina B. Gibson
S0436	A Study of the Percent Transmission of Reflectin as a Function of Temperature, Salinity, and Light Intensities in <i>Euprymna scolopes</i>	

Honorable Mention

**Senior** *Earth & Environmental Sciences*

Nidhi Ohri	Seminole High School	Ms. Ramsey Robinson
S0634	Improving the Efficiency of Hydrogen Fuel Cell Production by Splitting Water (into H <sub>2</sub> and O <sub>2</sub> ) with the Use of Catalyst Mixtures: a Third Year Study	

Third Place

**Senior** *Engineering*

Lauren M Neldner	Paul J. Hagerty High School	Mrs. Sarah Evans
S0737	Modeling and Simulation of Mass Spring Dampers in Bridges Under Seismic and Wind Forces	

Fourth Place

Zephrem A Tepper	Paul J. Hagerty High School	Mrs. Sarah Evans
S0737	Modeling and Simulation of Mass Spring Dampers in Bridges Under Seismic and Wind Forces	

Fourth Place

**Senior** *Intelligent Machines, Robotics, & Systems Software*

Aidan F Ryan	Paul J. Hagerty High School	Mrs. Sarah Evans
S0916	Point-Cloud Generation Using Computer Vision for Motion Estimation	

Second Place

Miranda R Bernheim	Crooms Academy of InformationTechnology	Mrs. Vanessa Moosavifazel
S0917	Driving while InTECHicated	

Third Place

Hayden A Freeman	Crooms Academy of InformationTechnology	Mrs. Vanessa Moosavifazel
S0917	Driving while InTECHicated	

Third Place

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Klayton L Killough	Crooms Academy of InformationTechnology	Mrs. Vanessa Moosavifazel
S0917	Driving while InTECHicated	

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Third Place

**Senior**      *Mathematics & Computational Sciences*

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Mitchell A Hammack	Oviedo High School	Ms. Kathy Savage
S1027	Skin Cancer Detection Using Convolutional Neural Networks	

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Third Place

*21 awards for Seminole Region*

## South Florida

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### Junior *Biomedical & Health Sciences*

Luis E Garcia-Sarabia J0310	George Washington Carver Middle School RA Is Getting on My Nerves!	Dr. Guillermo Garcia
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Third Place

Ethan Z Levy J0311	Aventura Waterways K-8 Center Comparing Pulsatile and Non-Pulsatile Left Ventricular Assist Devices (LVADs)	Ms. Melissa Macko
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Recognition

### Junior *Environmental Engineering*

Isabela V Perdomo J0810	Norman S. Edelcup Sunny Isles Beach K-8 Community School Cleaner Bottoms: Using Ultrasonic Waves to Reduce Barnacle Growth	Mr. Daniel Goodfriend
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Second Place

### Junior *Microbiology*

Natalia Lopez J1108	George Washington Carver Middle School Transformers: The Age of Calcium	Mrs. Bertha Vasquez
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Fourth Place

### Junior *Physics & Astronomy*

Lucas J Carbajal J1223	Winston Park K-8 Center Using Plant Products with TiO <sub>2</sub> Nanoparticles in Dye Sensitive Solar Cells	Mr. David Negrelli
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Fourth Place

Amy A Kaplan J1224	George Washington Carver Middle School Exoplanets	Ms. Melissa Martinez
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Third Place

Marlon Palomino J1225	Archimedean Middle School Conservatory Seeing Space	Ms. Sarah Grattan
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Fourth Place

### Junior *Plant Sciences*

Daisy J Hoover J1315	George Washington Carver Middle School Growing Green	Mrs. Bertha Vasquez
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Fourth Place

### Senior *Animal Sciences*

Madison K Precht S0109	Westminster Christian School The Effect of African Dust on the Threatened Staghorn Coral, <i>Acropora cervicornis</i> : An Experimental Analysis	Mrs. Lisa Garrido
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Recognition

### Senior *Cellular/Molecular Biology & Biochemistry*

Smita Bhattacharjee	John A. Ferguson Senior High School	Mr. Michael Weiss
S0414	Comparative Analysis and Effects of Oscillatory and Steady Shear Stress on Bone Marrow Derived Mesenchymal Stem Cells (BMMSC)	

Second Place

Said A Bilani	North Miami Beach Senior High School	Ms. Vania Boeva
S0415	The Effects of Conditioned Medium from Dental Stem Cells on Gene Expressions of Interleukin IL-1 $\beta$ Treated Chondrocytes	

Third Place

Maria V Suarez-Nieto	Medical Academy for Science and Technology	Ms. Sarah Cabrera
S0416	Testing for Potential Reactive Oxygen Species (ROS) Inhibitors in Human Dendritic Cells Treated with Alcohol	

Fourth Place

**Senior**      *Chemistry*

Alea C Delmastro	Riviera Preparatory School	Mrs. Elyssa Falkner
S0509	The Effect of Carbon Nanodots on the Fibrillation of Human Insulin	

Third Place

**Senior**      *Engineering*

Megan R Erdozain	Medical Academy for Science and Technology	Ms. Sarah Cabrera
S0716	A Novel Design for a Prosthetic Hand Geared for High Performance Gripping through the Use of a Unique Sensing System Platform, Brushless Motor Drive System Coupled with a Worm Gear Mechanism, and Rapid Prototyping Techniques	

First Place

Simon P Tsaoussis	Christopher Columbus High School	Mrs. Alina Sanchez
S0717	Two Transistor Ternary Random Access Memory	

Honorable Mention

Bo You	Miami Palmetto Senior High School	Ms. Pamela Shlachtman
S0718	Development of a Simulation-Driven Algorithm to Calculate Gold Nanorod Length from Dynamic Light Scattering Data	

Third Place

**Senior**      *Environmental Engineering*

Atiquel Islam	North Miami Beach Senior High School	Ms. Vania Boeva
S0811	Dye-Sensitized Solar Cell	

Third Place

Rebecca A Rauch-Thane	Miami Beach Senior High School	Mr. Paul Rehage
S0812	An Innovative Use of <i>Moringa oleifera</i> in Bio-Remediation of Coastal Biomes of <i>Rizofora mangle</i> and <i>Avicennia germinans</i>	

Fourth Place

**Senior**      *Physics & Astronomy*



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Aaron F matthews

Westminster Christian School

Mrs. Lisa Garrido

S1213

Do Different Materials in Football Helmets Help Prevent Concussions than the Factory Issued Material?

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Honorable Mention

***19 awards for South Florida Region***

## St. Johns

### Junior *Physics & Astronomy*

Joseph M Parimucha	Pacetti Bay Middle School	Mrs. Meg Ishee
J1208	Does the Type of Thermal Paste Impact the CPU Temperature?	

Honorable Mention

Rishabh Singh	Patriot Oaks Academy	Ms. Denise Jones
J1209	Contactless Brakes	

First Place

Miuru K Warusawithana	Patriot Oaks Academy	Ms. Denise Jones
J1209	Contactless Brakes	

First Place

### Junior *Plant Sciences*

TJ Kaminsky	Alice B. Landrum Middle School	Mr. Joseph Anzelmo
J1303	The Realignment of Circadian to Ultradian Rhythms in <i>Arabidopsis thaliana</i> ; An Investigation into Monophasic vs Polyphasic Photoperiods	

Second Place

### Senior *Behavioral & Social Sciences*

Chase H Lendry	Ponte Vedra High School	Mr. Steve Lym
S0203	Testing Students' Performance on Graded and Ungraded Assessments Based on Academic Placement	

Fourth Place

John R Molm	Ponte Vedra High School	Mr. Steve Lym
S0203	Testing Students' Performance on Graded and Ungraded Assessments Based on Academic Placement	

Fourth Place

Cullen C Smith	Ponte Vedra High School	Mr. Steve Lym
S0203	Testing Students' Performance on Graded and Ungraded Assessments Based on Academic Placement	

Fourth Place

### Senior *Biomedical & Health Sciences*

Cassia B Wang	Ponte Vedra High School	Dr. Kathryn Kehoe
S0303	Using RNAi and Drugs to Prevent Neurotoxicity in <i>C. elegans</i>	

Recognition

Adam B Snowden	Ponte Vedra High School	Mr. Steve Lyons
S0331	Producing a Modified, Capacity-Efficient Adeno-Associated Virus Vector Using a Surface-Bonded Green Fluorescent Protein to Visualize Infection in Multiple Cell Types	

Third Place

### Senior *Earth & Environmental Sciences*

Madison A Toonder	Ponte Vedra High School	Dr. Kathryn Kehoe
S0604	The Effects of Disproportionately Increasing Chemical Active Ingredients in Ascending SPF's of Micronized Chemical Sunscreen as Compared to Non-Nanosized Uncoated Zinc Oxide Natural Sunblock on Gape Rate, Behavior and Filtration Capacity of <i>Crassostrea virginica</i>	

First Place

**Senior** *Intelligent Machines, Robotics, & Systems Software*

Brighton A Ancelin	Creekside High School	Mrs. Amy Eardley
S0903	Logical Levitation: Achieving Magnetic Levitation via Computational Feedback Loop	

Third Place

**Senior** *Mathematics & Computational Sciences*

Yooree Ha	Ponte Vedra High School	Dr. Kathryn Kehoe
S1003	Fractal Analysis of Electroretinograms from Patients Afflicted with Retinitis Pigmentosa	

Third Place

**Senior** *Microbiology*

Ariana A Genovese	Ponte Vedra High School	Dr. Kathryn Kehoe
S1104	Iron's Effect on the Intrusion of a Pathogenic Agent on a Host Organism	

Fourth Place

Gabriela A Ramirez	Ponte Vedra High School	Dr. Kathryn Kehoe
S1104	Iron's Effect on the Intrusion of a Pathogenic Agent on a Host Organism	

Fourth Place

*14 awards for St. Johns Region*

## St. Lucie

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### Junior *Earth & Environmental Sciences*

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Jillian C Markle	Lincoln Park Academy	Mrs. Sally Vandereedt
J0635	Ugh! Another Invasive Weevil in Florida? Can Certain Natural Sprays Really Help the FL Homeowner Control the Leaf Damage Done by the Sri Lankan Weevil? Which Treatment Works Best?	

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Fourth Place

### Junior *Engineering*

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Jack H Krasulak	Saint Andrew's Episcopal Academy	Mr. Zane Barrus
J0754	Mitigating the Effects of IED Explosion Through Novel Hull Design	

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First Place

### Junior *Plant Sciences*

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Asha J Budhai	Oak Hammock K-8 School	Mrs. Ammie McCurley-Hammond
J1336	Keep the "Oil" in Soil	

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Recognition

### Senior *Cellular/Molecular Biology & Biochemistry*

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Koushal Rao	Lincoln Park Academy	Ms. Lisa Hevner
S0441	Targeting Mistranslaion in Cancer Therapy	

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Third Place

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Kevin Duan	Lincoln Park Academy	Mrs. Linda Rao
S0442	Development of Rapid Detection for Citrus HLB Infection Based on the Hydrogen Peroxide Levels of Host Plants	

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Fourth Place

### Senior *Earth & Environmental Sciences*

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Shreya K Reddy	Lincoln Park Academy	Ms. Lisa Hevner
S0641	A Cost Efficient Solution to Citrus Root Distruction: Developing a Defensive Barrier Against Citrus Weevils and Other Pests Using a Methylxanthine Agent	

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Second Place

### Senior *Engineering*

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Anthony C Oreo	Ft. Pierce Central High School	Ms. Shideh Saleki
S0744	Foiled Again	

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Honorable Mention

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Christopher J Swinford	Ft. Pierce Central High School	Ms. Shideh Saleki
S0744	Foiled Again	

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Honorable Mention

### Senior *Plant Sciences*

Haniya Shareef	Lincoln Park Academy	Ms. Lisa Hevner
S1334	Can Anaerobic Soil Disinfestation Create a Disease-Suppressive Soil to <i>Phytophthora capsici</i> and <i>Fusarium oxysporum f.sp. lycopersici</i> ?	
Fourth Place		
Peter D Jones	Olivet Private School	Mrs. Deanna Pick
S1335	Minimizing the Titer of <i>Candidatus Liberibacter Asiaticus</i> in the Phloem of Citrus Trees Using Anti-microbials	

Fourth Place

**10 awards for St. Lucie Region**

## Suwannee Valley

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### Junior *Animal Sciences*

Abigail G Ripplinger J0128	Lake Butler Middle School Organic or Inorganic: Which One Yields a Better Quality Egg	Mrs. Stephanie Sellers
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Second Place

### Junior *Chemistry*

Katie A Caren J0538	Lake Butler Middle School Urine Trouble	Mrs. Stephanie Sellers
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Fourth Place

### Junior *Engineering*

Evan R Amparo J0748	Lake City Middle School You Think Your Strong? Look at These Shapes	Ms. Jenifer Lanston
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Honorable Mention

Gyro G DelosTrinos J0749	Lake City Middle School Improving Ship's Stability in Rough Seas	Mrs. Edith Means
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Fourth Place

### Senior *Animal Sciences*

Eric J Rykard S0125	Madison County High School Quantifying and Diminishing the Biogas Emissions of the <i>Bos taurus</i> by the Utilization of <i>Zingiber officinale</i> through Dietary Supplements	Mrs. Andrea Krell
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Fourth Place

### Senior *Behavioral & Social Sciences*

Klara L Fletcher S0227	Fletcher Academy Memory Matters: Establishing Effective Retention Strategies	Mrs. Kristie Fletcher
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Honorable Mention

### Senior *Earth & Environmental Sciences*

Linash Thomas S0636	Columbia High School The Factors Affecting Concentration of Dissolved Oxygen Content in Bodies of Water: Year 2	Mrs. Celena Crews
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Honorable Mention

### Senior *Engineering*

Andrew-Paul Griffis S0740	Union County High School What Is the Effect of Humidity on Drying Time and Strength of an Adhesive Bond?	Ms. Renae Allen
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Honorable Mention

### Senior *Plant Sciences*

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Alison H Deloach	Ft. White High School	Mr. Wayne Oelfke
S1330	Does the Density/Row Affect the Triple Bottom Line	

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Fourth Place

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Austin T Mattox	Ft. White High School	Mr. Wayne Oelfke
S1330	Does the Density/Row Affect the Triple Bottom Line	

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Fourth Place

***10 awards for Suwannee Valley Region***

## Thomas Alva Edison

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### Junior *Animal Sciences*

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Maya S Chandar	Canterbury School of Fort Myers	Mrs. Cara Summit
J0104	The Effects of Ultrasound Waves vs Laser Beams on the Regrowth of <i>Lumbriculus variegatus</i> (A Novel Study)	

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First Place

### Junior *Cellular/Molecular Biology & Biochemistry*

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Carson Reid Maschmeier	St. Michael's Lutheran School	Ms. Jenifer Pease
J0403	Left or Right? The Correlation between Handedness and Ocular Dominance and Its Genetic Inheritance between Multiple Generations	

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Third Place

### Junior *Chemistry*

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Morgan Barkhurst	North Fort Myers Academy of the Arts	Ms. Brandee Summerall
J0505	BPA Free? Let's See!	

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Fourth Place

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Iris M Frost	Six Mile Charter Academy	Mrs. Angela Leveans
J0506	Cats Counting Calories	

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Third Place

### Junior *Earth & Environmental Sciences*

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Ryan C Scharlau	St. Michael's Lutheran School	Ms. Jenifer Pease
J0604	Is Solar Power or Wind Power More Effective in Southwest Florida?	

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Second Place

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Charlie J Suroski	St. Michael's Lutheran School	Ms. Jenifer Pease
J0605	Torpedo Grass Control	

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Recognition

### Junior *Engineering*

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James D Humpel	Saint Charles Borromeo Catholic School	Mr. Chris Mullins
J0709	"The WRIGHT Stuff" How Does the Change in Shape of an Airfoil Through the Use of Flaps Affect Lift and Drag?	

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First Place

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Annalisse R VanZanten	Fort Myers Christian School	Ms. Lori Cadwell
J0711	What Factors Affect Pinewood Derby Car Speeds?	

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First Place

### Junior *Microbiology*

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Colton G Novella	Crestwell School	Ms. Beth Hopkins
J1101	Electromagnetic Field and the Effects on Chromosomal Development and Mutations in <i>Drosophila melanogaster</i>	

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Second Place



**Junior**      *Plant Sciences*

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Joshua D Zingel	Evangelical Christian School	Mrs. Sally Wenzel
J1307	Effects of Various Water Sources on Plant Growth	

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Honorable Mention

**Senior**      *Cellular/Molecular Biology & Biochemistry*

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Jay S Chandar	Canterbury School of Fort Myers	Ms. Kelly Mahan
S0406	Moving Towards the Cure: The Effect of Neuroinflammation and Microglial Activity on Alzheimer's Pathology and the Development of Therapeutics for Their Mitigation in the TG4510 Mouse Model (A Third Year Study)	

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Fourth Place

**Senior**      *Chemistry*

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Anna Kucera	Canterbury School of Fort Myers	Ms. Kelly Mahan
S0503	Investigation of Bisphenol-A Concentration Levels in Cans and Plastic Bottles Using Gas-Chromatography Mass Spectrometry	

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Fourth Place

**Senior**      *Earth & Environmental Sciences*

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Melissa J Marchese	Canterbury School of Fort Myers	Ms. Kelly Mahan
S0607	The Effects of Coal Burning Power Plants on Residential Areas Including Environmental Pollutants and Respiratory Health	

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Honorable Mention

**Senior**      *Microbiology*

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Arjun D G Singh	Canterbury School of Fort Myers	Ms. Kelly Mahan
S1106	The Viability of Using Waste Fry Oil as a Source of Carbon for the Biosynthesis of Polyhydroxyalkanoates (PHA) from <i>Cupriavidus Necator</i> H16	

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Recognition

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Simrun M Varshney	Canterbury School of Fort Myers	Ms. Kelly Mahan
S1106	The Viability of Using Waste Fry Oil as a Source of Carbon for the Biosynthesis of Polyhydroxyalkanoates (PHA) from <i>Cupriavidus Necator</i> H16	

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Recognition

**Senior**      *Plant Sciences*

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Lorrie L Konopasek	Lemon Bay High School	Mrs. Jenee Mora
S1303	The Effects of Water Components on Duckweed Growth	

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Recognition

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Sean P O'Connor	Canterbury School of Fort Myers	Ms. Kelly Mahan
S1304	A Comparative Analysis of Tissue-Specific Silver Hyper-Accumulation in <i>Myriophyllum aquaticum</i>	

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Fourth Place

***17 awards for Thomas Alva Edison Region***

## Three Rivers

### Junior *Animal Sciences*

Cecilia Shuler J0103	Holy Nativity Episcopal School Look Out Termites Here I Come!	Mrs. Lisa Davis
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Fourth Place

### Junior *Behavioral & Social Sciences*

Jude Cain J0203	Covenant Christian School Deep Doodles: Effects of Repetitive Line Drawings on Auditory Memory	Mrs. Candace Whitmore
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Second Place

Colin L Campbell J0203	Covenant Christian School Deep Doodles: Effects of Repetitive Line Drawings on Auditory Memory	Mrs. Candace Whitmore
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Second Place

Mathew Hollo J0203	Covenant Christian School Deep Doodles: Effects of Repetitive Line Drawings on Auditory Memory	Mrs. Candace Whitmore
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Second Place

### Junior *Biomedical & Health Sciences*

Emma E Johnson J0301	Bay Haven Charter Academy Now You See It, Now You Don't!	Mrs. Anna McEntire
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Honorable Mention

Sydney A Polanin J0302	Breakfast Point Academy Discovering the Hidden Sugars in Your Food	Mrs. Kimberly Troia
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Recognition

### Junior *Chemistry*

Elijah L Jackson J0503	Bay Area Homeschools Can Dirt Charge a Cell Phone?	Mrs. Wendi Jackson
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Fourth Place

### Junior *Engineering*

Alex E Johnson J0706	Bay Haven Charter Academy Green Gaming	Mrs. Amy Canfield
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Recognition

Joseph T Lyon J0707	Surfside Middle School Shaking Up Some Light	Mrs. Linda Yori
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Recognition

Sami Najib J0708	Panama City Advanced School Wings of Uplift	Dr. Abdulrahman Al-Dubaie
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Recognition

### Senior *Engineering*

First Place

***11 awards for Three Rivers Region***

## Tomoka

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### Junior *Animal Sciences*

Jaemy Lee	Deltona Middle School	Ms. Carey Potter-Whiting
J0109	Hemoglobin Synthesis	

Recognition

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### Junior *Cellular/Molecular Biology & Biochemistry*

Tammy Nguyen	River Springs Middle School	Mr. John Darby
J0407	Determine the Effect of Surface Temperature on the Clarity of a Fingerprint on Glass	

Honorable Mention

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### Junior *Chemistry*

Melanie L Dunfee	New Smyrna Beach Middle School	Mr. Jack Foley
J0512	Can the Angle of Polarization Be Used to Determine the Chirality of an Optically Active Molecule?	

Fourth Place

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### Senior *Biomedical & Health Sciences*

Dalton L Price	Spruce Creek High School	Ms. Anne M. Cooney
S0305	Humanizing the Antiody: Development and Construction of an Amyloid-specific Ubiquibody in Treating Alzheimer's Disease	

Third Place

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### Senior *Earth & Environmental Sciences*

Azanta K Thakur	Spruce Creek High School	Ms. Anne M. Cooney
S0616	Bioremediation: A Natural Halophytic Filter	

Recognition

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### Senior *Mathematics & Computational Sciences*

Grace Liu	Spruce Creek High School	Dr. Don Spence
S1006	The Road Not Taken	

Honorable Mention

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### Senior *Physics & Astronomy*

Kaylyn Ling	Spruce Creek High School	Ms. Anne M. Cooney
S1209	Acoustic Levitaion: Defying Gravity Using Sound Waves	

Fourth Place

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### Senior *Plant Sciences*

Nina Ramchander	Spruce Creek High School	Mrs. Linda Kerney
S1306	What Is the Effect of Monochromatic Light on the Reaction Rate of the Photaxis in <i>Chlamydomonas reinhardtii</i> ?	

Honorable Mention

Recognition

**9 awards for Tomoka Region**

## West Panhandle

### Junior *Behavioral & Social Sciences*

Hope M Fell	St. John the Evangelist Catholic School	Mrs. Erica Levitt
J0204	Does Hair Color Change the Perception of Your Intelligence?	

Fourth Place

Lauren Lacour	St. John the Evangelist Catholic School	Mrs. Erica Levitt
J0204	Does Hair Color Change the Perception of Your Intelligence?	

Fourth Place

Emily G Wentzel	St. John the Evangelist Catholic School	Mrs. Erica Levitt
J0204	Does Hair Color Change the Perception of Your Intelligence?	

Fourth Place

Hannah N Meyers	Saint Paul Catholic School	Mrs. Blair Hodge
J0205	Quicker on Your Feet?	

Fourth Place

### Junior *Chemistry*

Mary K Beloat	Holley Navarre Middle School	Mrs. Kathryn Clark
J0507	What's The Buzz About C <sub>8</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub> ?: Extracting Caffeine from Everyday Beverages	

Honorable Mention

### Junior *Intelligent Machines, Robotics, & Systems Software*

Ravi Raj	Brown-Barge Middle School	Mr. Richard Hunter
J0903	Binary Adds Up	

Honorable Mention

Regan W Rudzki	Holley Navarre Middle School	Mrs. Kathryn Clark
J0904	R.O.V. Under the Sea	

Second Place

### Junior *Microbiology*

Mary E Galloway	Saint Paul Catholic School	Mrs. Blair Hodge
J1103	Brass Knobs in Comparison to Microban Antimicrobial Knobs	

Fourth Place

Payden Mouritsen	Brown-Barge Middle School	Mrs. Susan Hunter
J1104	To Bud or Not To Bud	

Recognition

### Junior *Physics & Astronomy*

Timmy M Hodges	Saint Paul Catholic School	Mrs. Blair Hodge
J1213	Tension Tying Techniques	

Honorable Mention

Kori S Vertz J1214	Warrington Middle School Light Colors and Evaporation	Mrs. Revonda Elowe
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Honorable Mention

**Senior** *Behavioral & Social Sciences*

Lauren Beall S0207	Pensacola High School To What Extent Does the Cross Race Effect and Education Level Impact the Accuracy of Eyewitness Testimonies: Year II	Mrs. Cherie Stephens
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Fourth Place

Patricia K McAuley S0207	Pensacola High School To What Extent Does the Cross Race Effect and Education Level Impact the Accuracy of Eyewitness Testimonies: Year II	Mrs. Cherie Stephens
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Fourth Place

Holley Meaney S0207	Pensacola High School To What Extent Does the Cross Race Effect and Education Level Impact the Accuracy of Eyewitness Testimonies: Year II	Mrs. Cherie Stephens
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Fourth Place

**Senior** *Earth & Environmental Sciences*

Kelly L Wu S0610	Pensacola High School Solar-Powered Membrane Distillation	Mrs. Cherie Stephens
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Fourth Place

**Senior** *Engineering*

Kinan T Alsheikh S0708	Pensacola High School A Langmuir Film's Variance in Relation to Its Deposition on a Solid Substrate in Creating a Langmuir Blodgett Film	Mrs. Cherie Stephens
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Honorable Mention

Carla G Dias S0708	Pensacola High School A Langmuir Film's Variance in Relation to Its Deposition on a Solid Substrate in Creating a Langmuir Blodgett Film	Mrs. Cherie Stephens
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Honorable Mention

Alexander Pope S0709	Pensacola High School Monitoring Your Brainwaves at Home with EEG	Mr. Allan Robinson
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Recognition

**Senior** *Environmental Engineering*

Elleon S Forty S0805	Pensacola High School The Number of Blades vs the DC Voltage Generated	Mr. Allan Robinson
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Recognition

Jeffrey A Sutherland S0805	Pensacola High School The Number of Blades vs the DC Voltage Generated	Mr. Allan Robinson
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Recognition

**Senior** *Intelligent Machines, Robotics, & Systems Software*

Geneva Nanette Anderson	West Florida High School of Advanced Technology	Mrs. Cheyenna Novotny
S0905	Analysis of Pupil Computer Recognition to Avoid Distracted Driving	

Fourth Place

**Senior**      *Physics & Astronomy*

Jacob P Ferris	Pensacola High School	Mrs. Cherie Stephens
S1204	Keeping the Heat	

Recognition

***22 awards for West Panhandle Region***