

# 2015 ALABAMA SCIENCE ENGINEERING FAIR

## Special Award Winners

### **Award: Alabama Geological Society**

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#### **Junior Division**

Participant: Maya Cassady

Project Cat. and No.: Z 381 Surface Ages of Planetary Bodies

Place: **1**

Indian Springs School

Participant: Marissa Council

Project Cat. and No.: E 280 Going Somewhere?

Place: **2**

Hampton Cove Middle School

Participant: Carly Alexander

Project Cat. and No.: N 249 Saved By Seaweed?

Place: **3**

Phillips Preparatory School

#### **Senior Division**

Participant: Zena Banker

Project Cat. and No.: EV 705 The Effect of Hydraulic Fracturing on the Germination of  
Monocots and Dicots: Foul Play in Shale Play?

Place: **1**

Wetumpka High School

Participant: Rowan Elqishawi

Rozan Elqishawi

Project Cat. and No.: EM 682 Coal Energy or Pure Water, But Maybe Both...Alabama to  
Choose!

Place: **2**

Hoover High School

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Nano-Particle Enhanced Reactive Porous Concrete

Place: **3**

Auburn High School

## **Award: Alabama Modeling and Simulation Council**

### **Junior Division**

Participant: Spenser Willard

Project Cat. and No.: ME 327 Is Grandma Okay? Can a Sensor Tell if Someone Has Fallen  
Place: 1 Down?  
Grace Lutheran School

Participant: Jose Pardo

Project Cat. and No.: Z 371 Stick It to Win It  
Place: 2  
Clark-Shaw Magnet School

Participant: Joseph Sandstrom

Project Cat. and No.: E 278 Clean Energy: Generating Electricity with a Wind Turbine  
Place: 3  
Liberty Middle School

### **Senior Division**

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):  
Place: 1 Nanoscale Transverse Tilt-rotor Helicopter  
Covenant Christian Academy

Participant: Joshua Abreo

Project Cat. and No.: EN 660 Multiscale Simulation of Tumor Growth and Angiogenesis: A  
Place: 2 Model for Pharmacotherapy Assessment and Drug Discovery  
James Clemens High School

Participant: Joshua Walker

Project Cat. and No.: CS 602 Modeling of a Drug Delivery System Utilizing Computer Software  
Place: 3  
Hewitt-Trussville High School

**Award: Alpha Kappa Alpha - Epsilon Gamma Omega Chapter,  
Math & Science Committee**

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**Junior Division**

Participant: Jackson Lanier

Project Cat. and No.: Z 372 Science Friction

Place: **1**

Heritage Elementary School

Participant: Tyanna Douglas

Project Cat. and No.: X 306 Cell Phone with Raditation

Place: **2**

Clark- Shaw Magnet School

Participant: Wamda Eltoun

Project Cat. and No.: BZ 155 Can Cinnamon act as a Rooting Hormone: Extracting the Active  
Ingredient?

Place: **3**

Islamic Academy of Alabama

**Senior Division**

Participant: Michael Elridge

Project Cat. and No.: PH 805 Measuring the Intensity of Cathode Ray Tubes with Various  
Materials as Anodes

Place: **1**

Hewitt-Trussville High School

Participant: Jasmine Thornhill

Project Cat. and No.: EV 706 Can Copper Sulfate Affect Aquatic Environments?

Place: **2**

Oakwood Adventist Academy

Participant: Nina Bucknor

Project Cat. and No.: BE 529 Which High School Grade Level Performs Best on a Stroop  
Task?

Place: **3**

Oakwood Adventist Academy

## **Award: American Association of University Women**

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### **Senior Division**

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA

Place: 1 Nano-Particle Enhanced Reactive Porous Concrete

Auburn High School

## **Award: American Chemical Society - The North Alabama Chapter**

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### **Junior Division**

Participant: Mohammad Ashour

Project Cat. and No.: CH 209 Biodiesel Fuel

Place: 1

Islamic Academy of Alabama

Participant: Anna Vogler

Project Cat. and No.: CH 208 Making Apple Juice with Enzymes

Place: 1

Heritage Elementary School

Participant: Sean Szymanski

Project Cat. and No.: CH 202 Supercool H<sub>2</sub>O

Place: 2

Hampton Cove Middle School

Participant: Jensen Call

Project Cat. and No.: CH 207 Seed Crystal Egg-speriment

Place: 3

Horizon Elementary School

## **Senior Division**

Participant: Rohan Palanki

Project Cat. and No.: ME 744 Gold and Silver Nanoparticles for Skin Cancer  
Chemoprevention and Therapy

Place: 1

W.P. Davidson High School

Participant: Daniel Vogler

Hamad Muhammad

Project Cat. and No.: CH 583 The Surface Chemistry of Digital Screen Protectors

Place: 2

James Clemens High school

Participant: Searra Eaddy

Hannah Reburn

Project Cat. and No.: CH 582 Got Cold Hands Too?

Place: 3

Stanhope Elmore High School

## **Award: American Institute of Aeronautics and Astronautics**

## **Junior Division**

Participant: Maya Cassady

Project Cat. and No.: Z 381 Surface Ages of Planetary Bodies

Place: 1

Indian Springs School

## **Senior Division**

Participant: Hayden Burch

Project Cat. and No.: EE 641 Evaluation of a Novel Wind Energy Capture Device- The Wind  
Wing

Place: 1

Auburn Junior High School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of  
Hydrodynamics: Part 2

Place: 1

Davidson High School

## **Award: American Meteorological Society**

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### **Senior Division**

Participant: McKenna Tharpe

Project Cat. and No.: EV 707 Rain, Acid Rain, How Does Your Garden Grow?

Place: 1

Stanhope Elmore High School

Participant: Maggie Knight

Project Cat. and No.: EM 681 Correcting Ocean Acidification with Potassium Carbonate

Place: 2

Alabama School of Fine Arts

## **Award: American Psychological Association**

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### **Junior Division**

Participant: Ella Burch

Project Cat. and No.: BE 113 Evaluating Choice Blindness

Place: 1

Hampton Cove Middle School

### **Senior Division**

Participant: Nina Bucknor

Project Cat. and No.: BE 529 Which High School Grade Level Performs Best on a Stroop Task?

Place: 1

Oakwood Adventist Academy

## **Award: American Society of Microbiology**

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### **Junior Division**

Participant: Alexa Kloske

Project Cat. and No.: E 271 Pollution Problem "The Impact of Pollution on Bacteria"

Place: 1

St. John the Baptist Catholic School

## Senior Division

Participant: Mitchell McFeely

Project Cat. and No.: MI 780 Signage and It's Impact on the Efficacy of Hand Washing: A  
Place: 1 Two Phase Study

St. John Paul II Catholic High School

## **Award: Arizona State University - Walton Sustainability Solutions Initiatives**

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## Senior Division

Participant: Maggie Knight

Project Cat. and No.: EM 681 Correcting Ocean Acidification with Potassium Carbonate  
Place: 1

Alabama School of Fine Arts

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Place: 1 Nano-Particle Enhanced Reactive Porous Concrete

Auburn High School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of  
Place: 1 Hydrodynamics: Part 2

Davidson High School

Participant: Rupa Palanki

Project Cat. and No.: PH 802 Design of Solar Energy System for Mobile Low-Power  
Place: 1 Applications

W.P. Davidson High School

**Award: Armed Forces Communications and Electronics  
Association (AFCEA) Educational Foundation**

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**Senior Division**

Participant: Daniel Corbett

Project Cat. and No.: EE 646 Cancelling Motion Induced Noise from Optical Signals

Place: 1

Lakeview Christian School

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):

Place: 1 Nanoscale Transverse Tilt-rotor Helicopter

Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery

Place: 1 Management System for Electric and Hybrid Electric Vehicles

Covenant Christian Academy

Participant: Nath Tumlin

Project Cat. and No.: CS 603 The Flying, Spying Pi

Place: 1

Alabama School of Fine Arts



## **Award: ASEF Directors Award, UA Huntsville**

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### **Senior Division**

Participant: Daniel Corbett

Project Cat. and No.: EE 646 Cancelling Motion Induced Noise from Optical Signals

Place: 1

Lakeview Christian School

Participant: Mihir Limdi

Project Cat. and No.: BI 551 Effects of Indomethacin and Thrombin on Platelet Bioenergetics

Place: 1

The Altamont School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of Hydrodynamics: Part 2

Place: 1

Davidson High School

Participant: Alexander Polski

Project Cat. and No.: PS 831 Effects of 2.4 GHz WLAN Radio Waves on Plant Growth

Place: 1

W.P. Davidson High School

## **Award: ASM Materials Education Foundation**

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### **Junior Division**

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of Reducing Sulfur Dioxide in Indoor Air

Place: 1

Auburn Junior High School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: N 243 Can a LaserJet or Inkjet Printing Process be Engineered to Print a Graphene Super Supercapacitor Battery?

Place: 1

Grace Lutheran School

## **Award: Association for Women Geoscientists**

### **Junior Division**

Participant: Cara Sexton

Project Cat. and No.: E 282 The Effects of Chemical Weathering and Freezing on Rocks

Place: 1

Challenger Elementary

### **Senior Division**

Participant: Jasmine Thornhill

Project Cat. and No.: EV 706 Can Copper Sulfate Affect Aquatic Environments?

Place: 1

Oakwood Adventist Academy

## **Award: Association of Energy Engineers (AEE)**

### **Junior Division**

Participant: Alexa Kloske

Project Cat. and No.: E 271 Pollution Problem "The Impact of Pollution on Bacteria"

Place: 1

St. John the Baptist Catholic School

Participant: Jonathan Kutz

Project Cat. and No.: N 242 Wings in a Wind Tunnel

Place: 1

Muscle Shoals Middle School

## Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EM 683 The Effects of Man made Water Filters on the Various  
Properties of Water

Place: 1

Jefferson County International  
Baccalaureate School

Participant: Ashlynn Arnold

Lauren Tinsley

Project Cat. and No.: EN 662 The Effect of Vibrations on Bacterial Growth

Place: 1

Hewitt-Trussville High School

Participant: Rahul Lall

Project Cat. and No.: ET 620 Algorithms for Prognostication of Electronics Failures in Hybrid  
and Electric Vehicles

Place: 1

Auburn High School

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery  
Management System for Electric and Hybrid Electric Vehicles

Place: 1

Covenant Christian Academy

## **Award: Boeing Company**

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### **Junior Division**

Participant: Will Ashley

Project Cat. and No.: Z 370 No Strings Attached

Place: 1

Cornerstone Christian Accademy

Participant: Caila Batchelor

Project Cat. and No.: BZ 150 Effect of Soil Microorganisms on Plant Growth

Place: 1

Columbia Elementary School

Participant: Wilhelmina Durham

Project Cat. and No.: BE 111 Night of the Living Lesson Plan

Place: 1

Holy Spirit Catholic High School

Participant: Amrita Lakhanpal

Project Cat. and No.: X 303 Help! I Got Hacked: How Fast Can Your Password Be Cracked?

Place: 1

The Altamont School

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of

Place: 1 Reducing Sulfur Dioxide in Indoor Air

Auburn Junior High School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: N 243 Can a LaserJet or Inkjet Printing Process be Engineered to Print  
a Graphene Super Supercapacitor Battery?

Place: 1

Grace Lutheran School

Participant: Katherine Rudolph

Project Cat. and No.: CH 206 Bioplastic: The Strengthening Effects of Glycerin

Place: 1

Phillips Preparatory School

Participant: Nikitha Sridhar

Project Cat. and No.: ME 322 Effects of Auditory and Visual Distracters on Multisensory  
Perception

Place: 1

J.F. Drake Middle School

## Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EM 683 The Effects of Man made Water Filters on the Various  
Properties of Water  
Place: 1

Jefferson County International  
Baccalaureate School

Participant: Joshua Abreo

Project Cat. and No.: EN 660 Multiscale Simulation of Tumor Growth and Angiogenesis: A  
Model for Pharmacotherapy Assessment and Drug Discovery  
Place: 1

James Clemens High School

Participant: Hannah Benton

Project Cat. and No.: BE 526 Just the Facts, Ma'am

Place: 1

Wetumpka High School

Participant: Courtney Bradford

Katie Lee Delaney

Project Cat. and No.: ME 746 The Effects of Foot Strike, Cadence, and Knee Angle on High  
School Cross Country Runners of Different Skill Levels: a Case-  
Control Study  
Place: 1

Hewitt-Trussville High School

Participant: Hayden Burch

Project Cat. and No.: EE 641 Evaluation of a Novel Wind Energy Capture Device- The Wind  
Wing  
Place: 1

Auburn Junior High School

Participant: Keri Burge

Project Cat. and No.: MA 722 Culminations in Compositions: Using the Fibonacci Numbers to  
Find Climaxes in Music  
Place: 1

St. John Paul II Catholic High School

Participant: Zachary Courneyea

Project Cat. and No.: EV 702 Water Quality of Common Water Sources: What's in the Water  
We Drink?  
Place: 1

W.P. Davidson High School

Participant: Jung Ho Gong

Project Cat. and No.: PS 835 Chemical Analysis of Orthopteran Saliva and Mouse EGF and  
their Corresponding Effects on Growth of the Seedlings of Peas  
Place: 1

Alabama School of Math and Science

Participant: Hannah James

Project Cat. and No.: MI 783 Pharmer's Market

Place: 1

Wetumpka High School

Participant: Sara Lewis

Tiffany Salas-Lopez

Project Cat. and No.: CS 601 Budget Assistance App for Grocery Shopping

Place: 1

Hewitt-Trussville High School

Participant: Mihir Limdi

Project Cat. and No.: BI 551 Effects of Indomethacin and Thrombin on Platelet Bioenergetics

Place: 1

The Altamont School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of

Place: 1 Hydrodynamics: Part 2

Davidson High School

Participant: Quinn McCormick

Project Cat. and No.: AS 502 Modifiers of *Apis mellifera* Flight Muscle Metabolism, a Field

Place: 1 Study in a Working Apiary

Jefferson County International

Baccalaureate School

Participant: Ariel Odom

Project Cat. and No.: CS 600 The Effect of Parabolic Reflectors on Wi-Fi Signal

Place: 1

Davidson High School

Participant: Rohan Palanki

Project Cat. and No.: ME 744 Gold and Silver Nanoparticles for Skin Cancer

Place: 1 Chemoprevention and Therapy

W.P. Davidson High School

Participant: Rupa Palanki

Project Cat. and No.: PH 802 Design of Solar Energy System for Mobile Low-Power

Place: 1 Applications

W.P. Davidson High School

Participant: Ruchir Rastogi

Project Cat. and No.: CB 562 Modulation of Macrophage Phenotype Using Nanoparticle-Delivered Gene Therapy for Treatment of Inflammatory Diseases  
Place: 1  
Loveless Academic Magnet Program  
High School

Participant: Katherine Welch

Project Cat. and No.: CH 580 Fading Memories  
Place: 1  
St. John Paul II Catholic High School

## **Award: Boeing Engineers Award**

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### **Junior Division**

Participant: Brooke Bassett

Project Cat. and No.: BZ 160 Moonlight Munchies

Place: 1

Holy Spirit Catholic High School

Participant: Jack Bell

Project Cat. and No.: BE 114 Commit To Be Fit

Place: 1

Mill Creek Elementary School

Participant: Caroline Bendickson

Project Cat. and No.: BE 104 The Gluten Verdict

Place: 1

Heritage Elementary School

Participant: Alex Edwards

Project Cat. and No.: Z 386 Whirly Bird Wonder

Place: 1

Rainbow Elementary School

Participant: Wamda Eltoun

Project Cat. and No.: BZ 155 Can Cinnamon act as a Rooting Hormone: Extracting the Active Ingredient?

Place: 1

Islamic Academy of Alabama

Participant: Sarah Kelso

Project Cat. and No.: E 279 Arthropods vs. Airguns

Place: 1

Hampton Cove Middle School

Participant: Davy Walker

Project Cat. and No.: X 307 Pappus' Physics

Place: 1

Oak Park Middle School



## Senior Division

Participant: Madelyn Kloske

Project Cat. and No.: CB 560 Variants in 9p21.3 Associated with Coronary Artery Disease

Place: 1

St. John Paul II Catholic High School

Participant: Rahul Lall

Project Cat. and No.: ET 620 Algorithms for Prognostication of Electronics Failures in Hybrid and Electric Vehicles

Place: 1

Auburn High School

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA

Place: 1 Nano-Particle Enhanced Reactive Porous Concrete

Auburn High School

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):

Place: 1 Nanoscale Transverse Tilt-rotor Helicopter

Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery

Place: 1 Management System for Electric and Hybrid Electric Vehicles

Covenant Christian Academy

Participant: Nath Tumlin

Project Cat. and No.: CS 603 The Flying, Spying Pi

Place: 1

Alabama School of Fine Arts

## **Award: Broadcom Masters**

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### **Junior Division**

Participant: Hannah Burckhartt

Project Cat. and No.: E 276 Oil Spills: Time vs. Remediation

Place: 1

Clark-Shaw Magnet School

Participant: Maya Cassady

Project Cat. and No.: Z 381 Surface Ages of Planetary Bodies

Place: 1

Indian Springs School

Participant: Wilhelmina Durham

Project Cat. and No.: BE 111 Night of the Living Lesson Plan

Place: 1

Holy Spirit Catholic High School

Participant: Wamda Eltoun

Project Cat. and No.: BZ 155 Can Cinnamon act as a Rooting Hormone: Extracting the Active Ingredient?

Place: 1

Islamic Academy of Alabama

Participant: Caleb Kirk

Project Cat. and No.: Z 379 Refraction Extraction

Place: 1

Muscle Shoals Middle School

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic Coatings

Place: 1

Life Christian Academy

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of Reducing Sulfur Dioxide in Indoor Air

Place: 1

Auburn Junior High School

Participant: Rhianna Lumpkin

Project Cat. and No.: BZ 154 Peanuts 4 Eggs

Place: 1

Eclectic Middle School

Participant: Kaya Lyons  
Project Cat. and No.: CH 200 Rise of the Yeast  
Place: 1  
Heritage Elementary School

Participant: Sejal Srivastava  
Project Cat. and No.: ME 323 The Effects of Allium sativum (garlic) and Zinger officinale  
(ginger) on Escherichia coli  
Place: 1  
Drake Middle School

Participant: Allyson Thammavongsa  
Project Cat. and No.: N 255 How Lubricants Affect Mechanical Operations  
Place: 1  
Heritage Elementary School

Participant: Davy Walker  
Project Cat. and No.: X 307 Pappus' Physics  
Place: 1  
Oak Park Middle School

## **Award: Dauphin Island Sea Lab. - Marine Environmental Sciences Consortium**

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### **Junior Division**

Participant: Sarah Kelso  
Project Cat. and No.: E 279 Arthropods vs. Airguns  
Place: 1  
Hampton Cove Middle School

Participant: Catherine Langley  
Project Cat. and No.: E 286 Filtering Fowl River  
Place: 1  
Phillips Preparatory School

Participant: Alexa Kloske  
Project Cat. and No.: E 271 Pollution Problem "The Impact of Pollution on Bacteria"  
Place: **HM**  
St. John the Baptist Catholic School

## **Senior Division**

Participant: Maggie Knight

Project Cat. and No.: EM 681 Correcting Ocean Acidification with Potassium Carbonate

Place: 1

Alabama School of Fine Arts

Participant: Kenneth Good

Project Cat. and No.: EV 703 Chemical Desalination

Place: **HM**

Columbia High School

### **Award: Dr. and Mrs. Graeme Duthie Award**

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## **Junior Division**

Participant: Jackson Lanier

Project Cat. and No.: Z 372 Science Friction

Place: 1

Heritage Elementary School

### **Award: Greater Huntsville Rotary**

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## **Junior Division**

Participant: Rhianna Lumpkin

Project Cat. and No.: BZ 154 Peanuts 4 Eggs

Place: 1

Eclectic Middle School

Participant: Ryan Revera

Project Cat. and No.: Z 361 Baseball Blast! Testing How Far A Baseball Will Travel.

Place: 2

Horizon Elementary School

## Senior Division

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery  
Management System for Electric and Hybrid Electric Vehicles  
Place: 1  
Covenant Christian Academy

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Nano-Particle Enhanced Reactive Porous Concrete  
Place: 2  
Auburn High School

## **Award: Horizon Shipbuilding, Inc. - Sponsors of Contribution to Maritime Industries**

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## Junior Division

Participant: Sam Barlet

Project Cat. and No.: Z 367 Smooth Sailing?  
Place: 1  
Eclectic Middle School

## Senior Division

Participant: Sarah Bowman

Project Cat. and No.: AS 503 Tag Retention and Stress Levels in Subadult Red Drum  
(Sciaenops ocellatus)  
Place: 1  
Murphy High School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of  
Hydrodynamics: Part 2  
Place: 1  
Davidson High School

## **Award: Huntsville Botanical Gardens**

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### **Senior Division**

Participant: William Oliver

Project Cat. and No.: PS 832 Is the Grass Greener on the Other Side?

Place: 1

Wetumpka High School

Participant: Alexander Polski

Project Cat. and No.: PS 831 Effects of 2.4 GHz WLAN Radio Waves on Plant Growth

Place: 1

W.P. Davidson High School

Participant: McKenna Tharpe

Project Cat. and No.: EV 707 Rain, Acid Rain, How Does Your Garden Grow?

Place: 1

Stanhope Elmore High School

Participant: Jasmine Thornhill

Project Cat. and No.: EV 706 Can Copper Sulfate Affect Aquatic Environments?

Place: 1

Oakwood Adventist Academy

## **Award: Huntsville Electro-Optical Society**

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### **Senior Division**

Participant: Daniel Corbett

Project Cat. and No.: EE 646 Cancelling Motion Induced Noise from Optical Signals

Place: **HM**

Lakeview Christian School

Participant: Michael Elridge

Project Cat. and No.: PH 805 Measuring the Intensity of Cathode Ray Tubes with Various  
Materials as Anodes

Place: **HM**

Hewitt-Trussville High School

Participant: Austin Norwood

Matthew Jackson

Project Cat. and No.: ET 625 Increased Efficiency in Solar Energy for Developing Countries

Place: **HM**

Hewitt-Trussville High School

Participant: Rupa Palanki

Project Cat. and No.: PH 802 Design of Solar Energy System for Mobile Low-Power  
Applications

Place: **HM**

W.P. Davidson High School

Participant: Sharee Riggs

Project Cat. and No.: EE 640 Electro-Mechanical Powered Light

Place: **HM**

Wetumpka High School

Participant: Elena Smith

Project Cat. and No.: EM 680 Low-Cost Laser Scatterometer for Home Air Quality  
Measurement

Place: **HM**

St. John Paul II Catholic High School

## **Award: IEEE Huntsville Section**

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### **Junior Division**

Participant: Matthew Freestone

Project Cat. and No.: N 244 Flight Of The Quadcopter: How to Achieve the Longest Flight

Place: 1 Times

St. John the Baptist Catholic School

Participant: Amrita Lakhanpal

Project Cat. and No.: X 303 Help! I Got Hacked: How Fast Can Your Password Be Cracked?

Place: 1

The Altamont School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: N 243 Can a LaserJet or Inkjet Printing Process be Engineered to Print

Place: 1 a Graphene Super Supercapacitor Battery?

Grace Lutheran School

Participant: Gavin Smith

Project Cat. and No.: Z 374 Ultra Low-Cost Solar Concentrator for Improving Solar Phone

Place: 1 Charger Performance

St. John the Baptist Catholic School



## Senior Division

Participant: Sean Benson

Project Cat. and No.: EE 645 Thermally Actuated Artificial Muscles for Use in Exoskeletons  
Place: 1  
Satsuma High School

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):  
Nanoscale Transverse Tilt-rotor Helicopter  
Place: 1  
Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery  
Management System for Electric and Hybrid Electric Vehicles  
Place: 1  
Covenant Christian Academy

Participant: Sharee Riggs

Project Cat. and No.: EE 640 Electro-Mechanical Powered Light  
Place: 1  
Wetumpka High School

## **Award: Intel - Excellence in Computer Science**

## Senior Division

Participant: Rahul Lall

Project Cat. and No.: ET 620 Algorithms for Prognostication of Electronics Failures in Hybrid  
and Electric Vehicles  
Place: 1  
Auburn High School

Participant: Jasmin Revanna

Project Cat. and No.: CB 561 Determining the Role of a Ganglion Cell Class in the Retina with  
Thermal Imaging  
Place: 1  
Alabama School of Fine Arts

## **Award: International Sustainable World (I-SWEEEP)**

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### **Senior Division**

Participant: Hayden Burch

Project Cat. and No.: EE 641 Evaluation of a Novel Wind Energy Capture Device- The Wind  
Place: 1 Wing  
Auburn Junior High School

Participant: Rahul Lall

Project Cat. and No.: ET 620 Algorithms for Prognostication of Electronics Failures in Hybrid  
and Electric Vehicles  
Place: **HM**  
Auburn High School

## **Award: ISEF Finalists**

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### **Senior Division**

Participant: Sean Benson

Project Cat. and No.: EE 645 Thermally Actuated Artificial Muscles for Use in Exoskeletons  
Place: 1  
Satsuma High School

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Nano-Particle Enhanced Reactive Porous Concrete  
Place: 1  
Auburn High School

Participant: Ruchir Rastogi

Project Cat. and No.: CB 562 Modulation of Macrophage Phenotype Using Nanoparticle-  
Delivered Gene Therapy for Treatment of Inflammatory Diseases  
Place: 1  
Loveless Academic Magnet Program  
High School

Participant: Priya Shah

Project Cat. and No.: EN 661 Non-Invasive Monitoring of Inflammation in a Genetically-  
Modified, Tissue Engineered Vascular Model  
Place: 1  
Alabama School of Fine Arts

## **Award: Junior Grand Awards**

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### **Junior Division**

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic  
Place: 1 Coatings  
Life Christian Academy

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of  
Place: 1 Reducing Sulfur Dioxide in Indoor Air  
Auburn Junior High School

Participant: Allyson Thammavongsa

Project Cat. and No.: N 255 How Lubricants Affect Mechanical Operations  
Place: 1  
Heritage Elementary School

Participant: Davy Walker

Project Cat. and No.: X 307 Pappus' Physics  
Place: 1  
Oak Park Middle School

## **Award: Mu Alpha Theta**

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### **Senior Division**

Participant: Keri Burge

Project Cat. and No.: MA 722 Culminations in Compositions: Using the Fibonacci Numbers to  
Place: 1 Find Climaxes in Music  
St. John Paul II Catholic High School

Participant: Noah Phillips

Project Cat. and No.: MA 721 Factors Correlating to Obesity in Alabama Counties: A  
Place: 1 Statistical Analysis of Varying Individual Behaviors  
Alabama School of Fine Arts

## **Award: National Aeronautics & Space Administration**

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### **Junior Division**

Participant: Maya Cassady

Project Cat. and No.: Z 381 Surface Ages of Planetary Bodies

Place: 1

Indian Springs School

Participant: Caleb Kirk

Project Cat. and No.: Z 379 Refraction Extraction

Place: 1

Muscle Shoals Middle School

### **Senior Division**

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):

Place: 1 Nanoscale Transverse Tilt-rotor Helicopter

Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery

Place: 1 Management System for Electric and Hybrid Electric Vehicles

Covenant Christian Academy

Participant: Elena Smith

Project Cat. and No.: EM 680 Low-Cost Laser Scatterometer for Home Air Quality

Place: 1 Measurement

St. John Paul II Catholic High School

## **Award: National Oceanic and Atmospheric Administration - Taking the Pulse of the Planet Award**

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### **Junior Division**

Participant: Victoria Purdy

Project Cat. and No.: Z 382 Surf's Up!

Place: 1

Phillips Preparatory School

## **Senior Division**

Participant: McKenna Tharpe

Project Cat. and No.: EV 707 Rain, Acid Rain, How Does Your Garden Grow?

Place: 1

Stanhope Elmore High School

### **Award: National Youth Science Foundation Award**

## **Senior Division**

Participant: Jung Ho Gong

Project Cat. and No.: PS 835 Chemical Analysis of Orthopteran Saliva and Mouse EGF and their Corresponding Effects on Growth of the Seedlings of Peas

Place: 1

Alabama School of Math and Science

### **Award: Ricoh Americas Corporation**

## **Junior Division**

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of Reducing Sulfur Dioxide in Indoor Air

Place: 1

Auburn Junior High School

## **Senior Division**

Participant: Noel Dudeck

Tyler Huang

Project Cat. and No.: ET 621 Power Generation in Microbial Fuel Cells

Place: 1

Alabama School of Fine Arts

## **Award: Sigma Xi, UAH Chapter**

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### **Junior Division**

Participant: Wamda Eltoun

Project Cat. and No.: BZ 155 Can Cinnamon act as a Rooting Hormone: Extracting the Active  
Place: 1 Ingredient?  
Islamic Academy of Alabama

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic  
Place: HM Coatings  
Life Christian Academy

### **Senior Division**

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Place: 1 Nano-Particle Enhanced Reactive Porous Concrete  
Auburn High School

Participant: Sara Lewis

Tiffany Salas-Lopez

Project Cat. and No.: CS 601 Budget Assistance App for Grocery Shopping  
Place: HM  
Hewitt-Trussville High School

## **Award: Society for In Vitro Biology**

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### **Senior Division**

Participant: Arjun Guru

Amy Zhao

Project Cat. and No.: ME 743 Gene Expression in Primary and Metastatic Kidney Cancer to  
Place: 1 Discover Drivers of Metastasis and Targets for Drug  
Development  
The Altamont School / Vestavia Hills  
High School

Participant: Mihir Limdi

Project Cat. and No.: BI 551 Effects of Indomethacin and Thrombin on Platelet Bioenergetics  
Place: 1  
The Altamont School

**Award: Society of American Military Engineers (SAME) -  
Huntsville Post**

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**Junior Division**

Participant: Noel Lange

Project Cat. and No.: E 274 Development of a Non-Woven Cotton Filter Capable of  
Reducing Sulfur Dioxide in Indoor Air  
Place: 1  
Auburn Junior High School

**Senior Division**

Participant: Priya Shah

Project Cat. and No.: EN 661 Non-Invasive Monitoring of Inflammation in a Genetically-  
Modified, Tissue Engineered Vascular Model  
Place: 1  
Alabama School of Fine Arts

**Award: Soil & Water Conservation Society**

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**Junior Division**

Participant: Hannah Burckhartt

Project Cat. and No.: E 276 Oil Spills: Time vs. Remediation  
Place: 1  
Clark-Shaw Magnet School

Participant: Joseph Sandstrom

Project Cat. and No.: E 278 Clean Energy: Generating Electricity with a Wind Turbine  
Place: 1  
Liberty Middle School

**Senior Division**

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Nano-Particle Enhanced Reactive Porous Concrete  
Place: 1  
Auburn High School

Participant: McKenna Tharpe

Project Cat. and No.: EV 707 Rain, Acid Rain, How Does Your Garden Grow?  
Place: 1  
Stanhope Elmore High School

**Award: SPIE - The International Society for Optics &  
Photonics / NASA Optics / Huntsville Electro-Optics  
Society**

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**Junior Division**

Participant: Miles Thompson

Project Cat. and No.: Z 385 Which Disc is Groovier?

Place: 1

St. Joseph Regional Catholic School

Participant: Caleb Kirk

Project Cat. and No.: Z 379 Refraction Extraction

Place: 2

Muscle Shoals Middle School

Participant: Erin Wallace

Project Cat. and No.: N 247 "BE STRONG" I Whispered To My Wi-Fi Signal

Place: 3

Muscle Shoals Middle School

**Senior Division**

Participant: Michael McGinnis

Project Cat. and No.: PH 803 Input Power Dependency of White Light Generation

Place: 1

Jefferson County International  
Baccalaureate School

Participant: Rohan Palanki

Project Cat. and No.: ME 744 Gold and Silver Nanoparticles for Skin Cancer

Place: 2 Chemoprevention and Therapy

W.P. Davidson High School

Participant: Nath Tumlin

Project Cat. and No.: CS 603 The Flying, Spying Pi

Place: 3

Alabama School of Fine Arts



## **Award: Stockholm Junior Water Prize**

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### **Senior Division**

Participant: Briganna Abernathy

Project Cat. and No.: EM 683 The Effects of Man made Water Filters on the Various  
Place: 1 Properties of Water

Jefferson County International  
Baccalaureate School

Participant: Zachary Courneyea

Project Cat. and No.: EV 702 Water Quality of Common Water Sources: What's in the Water  
Place: 1 We Drink?

W.P. Davidson High School

Participant: Rowan Elqishawi

Rozan Elqishawi

Project Cat. and No.: EM 682 Coal Energy or Pure Water, But Maybe Both...Alabama to  
Place: 1 Choose!

Hoover High School

Participant: Kenneth Good

Project Cat. and No.: EV 703 Chemical Desalination

Place: 1

Columbia High School

Participant: Megan Lange

Project Cat. and No.: EV 704 Removal of BTEX from Storm Water Using Improved HDTMA  
Place: 1 Nano-Particle Enhanced Reactive Porous Concrete

Auburn High School

Participant: Mitchell McFeely

Project Cat. and No.: MI 780 Signage and It's Impact on the Efficacy of Hand Washing: A  
Place: 1 Two Phase Study

St. John Paul II Catholic High School

## **Award: Teledyne Brown Engineering Award**

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### **Junior Division**

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic  
Place: 1 Coatings

Life Christian Academy

## Senior Division

Participant: Sean Benson

Project Cat. and No.: EE 645 Thermally Actuated Artificial Muscles for Use in Exoskeletons

Place: 1

Satsuma High School

Participant: Nath Tumlin

Project Cat. and No.: CS 603 The Flying, Spying Pi

Place: 1

Alabama School of Fine Arts

## **Award: Tennessee Valley Authority**

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### **Junior Division**

Participant: Jackson Butler

Project Cat. and No.: CH 201 Water Purification

Place: 1

Muscle Shoals Middle School

Participant: Marena Cowley

Madeline Joiner

Avy Elmore

Project Cat. and No.: E 285 Carbon Footprints

Place: 1

Oak Park Middle School

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic Coatings

Place: 1

Life Christian Academy

Participant: Alexa Kloske

Project Cat. and No.: E 271 Pollution Problem "The Impact of Pollution on Bacteria"

Place: 1

St. John the Baptist Catholic School

Participant: Lauryn McKinley

Elizabeth Jasmine To

Project Cat. and No.: E 273 Can the Color of Your House Reduce Your Energy Footprint?

Place: 1

Beverlye Magnet School

Participant: Cara Sexton

Project Cat. and No.: E 282 The Effects of Chemical Weathering and Freezing on Rocks

Place: 1

Challenger Elementary

## Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EM 683 The Effects of Man made Water Filters on the Various  
Properties of Water  
Place: 1

Jefferson County International  
Baccalaureate School

Participant: Richard Boone

Project Cat. and No.: EV 700 Mr. Heat Miser  
Place: 1

Murphy High School

Participant: Zachary Courneyea

Project Cat. and No.: EV 702 Water Quality of Common Water Sources: What's in the Water  
We Drink?  
Place: 1

W.P. Davidson High School

Participant: Kenneth Good

Project Cat. and No.: EV 703 Chemical Desalination  
Place: 1

Columbia High School

Participant: Michael McGinnis

Project Cat. and No.: PH 803 Input Power Dependency of White Light Generation  
Place: 1

Jefferson County International  
Baccalaureate School

Participant: Elena Smith

Project Cat. and No.: EM 680 Low-Cost Laser Scatterometer for Home Air Quality  
Measurement  
Place: 1

St. John Paul II Catholic High School

## **Award: Toyota Motor Manufacturing Company**

## Junior Division

Participant: Kensi Kirkpatrick

Project Cat. and No.: N 256 Reducing Pressure Loss In Pipes Using Super Hydrophobic  
Coatings  
Place: 1

Life Christian Academy

## Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EM 683 The Effects of Man made Water Filters on the Various  
Place: 1 Properties of Water

Jefferson County International  
Baccalaureate School

## **Award: U.S. Army Science and Engineering Awards Program**

### **Junior Division**

Participant: Claire Amey

Project Cat. and No.: BE 108 How Reliable is Eye-Witness Testimony?

Place: **HM**

Liberty Middle School

Participant: Caroline Bendickson

Project Cat. and No.: BE 104 The Gluten Verdict

Place: **HM**

Heritage Elementary School

Participant: Ella Burch

Project Cat. and No.: BE 113 Evaluating Choice Blindness

Place: **HM**

Hampton Cove Middle School

Participant: Caroline Bush

Project Cat. and No.: BE 116 The Makeup Myth

Place: **HM**

Life Christian Academy

Participant: Jackson Butler

Project Cat. and No.: CH 201 Water Purification

Place: **HM**

Muscle Shoals Middle School

Participant: Tyanna Douglas

Project Cat. and No.: X 306 Cell Phone with Raditation

Place: **HM**

Clark- Shaw Magnet School

Participant: Wamda Eltoun

Project Cat. and No.: BZ 155 Can Cinnamon act as a Rooting Hormone: Extracting the Active Ingredient?

Place: **HM**

Islamic Academy of Alabama

Participant: Maya Guru

Project Cat. and No.: E 275 Fuel Cycle of the Future

Place: **HM**

The Altamont School

Participant: Alexa Kloske

Project Cat. and No.: E 271 Pollution Problem "The Impact of Pollution on Bacteria"

Place: **HM**

St. John the Baptist Catholic School

Participant: Jonathan Kutz

Project Cat. and No.: N 242 Wings in a Wind Tunnel

Place: **HM**

Muscle Shoals Middle School

Participant: Maanasi Limaye

Project Cat. and No.: Z 392 Loopin' Marble Roller Coaster

Place: **HM**

Rainbow Elementary School

Participant: Abigail Lowe

Project Cat. and No.: CH 203 Which is the Best Way to Detect Forgery?

Place: **HM**

The Altamont School

Participant: Mary Madden

Project Cat. and No.: N 240 Save The Egg

Place: **HM**

Our Lady of the Valley Catholic School

Participant: Seema Mallah

Project Cat. and No.: ME 331 The Rapid Heart Beat

Place: **HM**

Islamic Academy of Alabama

Participant: Dylan Proctor

Project Cat. and No.: ME 332 Gamers Beware

Place: **HM**

Hampton Cove Middle School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: N 243 Can a LaserJet or Inkjet Printing Process be Engineered to Print a Graphene Super Supercapacitor Battery?

Place: **HM**

Grace Lutheran School

Participant: Callie Scroggins  
Project Cat. and No.: BE 112 A Rewarding Experience  
Place: **HM**  
Mill Creek Elementary School

Participant: Jackson Shields  
Project Cat. and No.: ME 326 Got You Covered  
Place: **HM**  
Our Lady of the Valley Catholic School

Participant: Nikitha Sridhar  
Project Cat. and No.: ME 322 Effects of Auditory and Visual Distracters on Multisensory  
Perception  
Place: **HM**  
J.F. Drake Middle School

Participant: Sneha Subramani  
Project Cat. and No.: BE 101 Are you Left or Right Sided?  
Place: **HM**  
Mill Creek Elementary School

Participant: Taylor Tibbs  
Project Cat. and No.: BE 100 How Does Music Make You Feel?  
Place: **HM**  
Columbia Elementary School

Participant: Andrea Torres  
Project Cat. and No.: E 283 Soil Erosion  
Place: **HM**  
Heritage Elementary School

Participant: Joshua VanAkin  
Project Cat. and No.: Z 390 Strength of an Electromagnet Continued  
Place: **HM**  
Mill Creek Elementary School

Participant: Avery Werkheiser  
Project Cat. and No.: Z 363 Science Friction  
Place: **HM**  
Mill Creek Elementary School



Participant: Sydney Williams

Project Cat. and No.: BZ 165 Nuclear Radishes

Place: **HM**

Hampton Cove Middle School

## Senior Division

Participant: Sean Benson

Project Cat. and No.: EE 645 Thermally Actuated Artificial Muscles for Use in Exoskeletons  
Place: 1  
Satsuma High School

Participant: Sharee Riggs

Project Cat. and No.: EE 640 Electro-Mechanical Powered Light  
Place: 1  
Wetumpka High School

Participant: Alexis Jordan

Jacob Spruiell

Project Cat. and No.: EE 644 The Development of a Car Seat Alert System using Arduino Uno  
Place: 2  
Hewitt-Trussville High School

Participant: Madelyn Kloske

Project Cat. and No.: CB 560 Variants in 9p21.3 Associated with Coronary Artery Disease  
Place: 2  
St. John Paul II Catholic High School

Participant: Joshua Abreo

Project Cat. and No.: EN 660 Multiscale Simulation of Tumor Growth and Angiogenesis: A  
Place: **HM** Model for Pharmacotherapy Assessment and Drug Discovery  
James Clemens High School

Participant: Elizabeth Allen

Project Cat. and No.: PH 804 The Effects of Light on 3-D Photography  
Place: **HM**  
St. John Paul II Catholic High School

Participant: Courtney Bradford

Katie Lee Delaney

Project Cat. and No.: ME 746 The Effects of Foot Strike, Cadence, and Knee Angle on High  
Place: **HM** School Cross Country Runners of Different Skill Levels: a Case-  
Control Study  
Hewitt-Trussville High School

Participant: Hayden Burch

Project Cat. and No.: EE 641 Evaluation of a Novel Wind Energy Capture Device- The Wind  
Place: **HM** Wing  
Auburn Junior High School

Participant: Daniel Corbett

Project Cat. and No.: EE 646 Cancelling Motion Induced Noise from Optical Signals

Place: **HM**

Lakeview Christian School

Participant: Jung Ho Gong

Project Cat. and No.: PS 835 Chemical Analysis of Orthopteran Saliva and Mouse EGF and their Corresponding Effects on Growth of the Seedlings of Peas

Place: **HM**

Alabama School of Math and Science

Participant: Katherine Koons

Project Cat. and No.: CH 584 Citric Circuits

Place: **HM**

St. John Paul II Catholic High School

Participant: Rahul Lall

Project Cat. and No.: ET 620 Algorithms for Prognostication of Electronics Failures in Hybrid and Electric Vehicles

Place: **HM**

Auburn High School

Participant: Nolan Lenard

Project Cat. and No.: ME 742 Replacing Corrective Lenses with Digital Camera Technology

Place: **HM**

Davidson High School

Participant: Sara Lewis

Tiffany Salas-Lopez

Project Cat. and No.: CS 601 Budget Assistance App for Grocery Shopping

Place: **HM**

Hewitt-Trussville High School

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of Hydrodynamics: Part 2

Place: **HM**

Davidson High School

Participant: Addison Meeks

Project Cat. and No.: BE 520 Do You See What I See?

Place: **HM**

Auburn Junior High School

Participant: Javier Nishikawa

Project Cat. and No.: BE 524 Language: Does it Affect Your Decisions?

Place: **HM**

St. John Paul II Catholic High School

Participant: Kelin Norris

Project Cat. and No.: PS 834 Will My Chemical Produce Greater Plant Growth Than Standard

Place: **HM** Fertilizer and Plant Feed?

Oakwood Adventist Academy

Participant: Ariel Odom

Project Cat. and No.: CS 600 The Effect of Parabolic Reflectors on Wi-Fi Signal

Place: **HM**

Davidson High School

Participant: Noah Phillips

Project Cat. and No.: MA 721 Factors Correlating to Obesity in Alabama Counties: A

Place: **HM** Statistical Analysis of Varying Individual Behaviors

Alabama School of Fine Arts

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):

Place: **HM** Nanoscale Transverse Tilt-rotor Helicopter

Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery

Place: **HM** Management System for Electric and Hybrid Electric Vehicles

Covenant Christian Academy

Participant: Ruchir Rastogi

Project Cat. and No.: CB 562 Modulation of Macrophage Phenotype Using Nanoparticle-

Place: **HM** Delivered Gene Therapy for Treatment of Inflammatory Diseases

Loveless Academic Magnet Program

High School

Participant: Jasmin Revanna

Project Cat. and No.: CB 561 Determining the Role of a Ganglion Cell Class in the Retina with

Place: **HM** Thermal Imaging

Alabama School of Fine Arts

Participant: Elena Smith

Project Cat. and No.: EM 680 Low-Cost Laser Scatterometer for Home Air Quality

Place: **HM** Measurement

St. John Paul II Catholic High School

Participant: Damar Thomas

Project Cat. and No.: PS 833 Which Liquids Can Be Added Alongside Water to Help Support

Place: **HM** Plant Growth?

Oakwood Adventist Academy

Participant: Jasmine Thornhill

Project Cat. and No.: EV 706 Can Copper Sulfate Affect Aquatic Environments?

Place: **HM**

Oakwood Adventist Academy

## **Award: U.S. Metric Association**

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### **Senior Division**

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of

Place: **1** Hydrodynamics: Part 2

Davidson High School

Participant: Daniel Sanders

Project Cat. and No.: EV 701 Oil Molecular Measurement with Varying Underwater Terrain

Place: **1**

St. John Paul II Catholic High School

## **Award: U.S. Navy and Marine Corps - Office of Naval Research**

### **Junior Division**

Participant: Alex Edwards

Project Cat. and No.: Z 386 Whirly Bird Wonder

Place: 1

Rainbow Elementary School

Participant: Cecily Odom

Project Cat. and No.: X 301 Are You Safe?

Place: 1

Phillips Preparatory School

Participant: Adhavan Subramaniam

Project Cat. and No.: N 257 Effect of Magnetic Strength on Rotation Speed

Place: 1

Mill Creek Elementary School

### **Senior Division**

Participant: Hayden Burch

Project Cat. and No.: EE 641 Evaluation of a Novel Wind Energy Capture Device- The Wind Wing

Place: 1

Auburn Junior High School

Participant: Keri Burge

Project Cat. and No.: MA 722 Culminations in Compositions: Using the Fibonacci Numbers to Find Climaxes in Music

Place: 1

St. John Paul II Catholic High School

Participant: Maggie Knight

Project Cat. and No.: EM 681 Correcting Ocean Acidification with Potassium Carbonate

Place: 1

Alabama School of Fine Arts

Participant: Ariel Odom

Project Cat. and No.: CS 600 The Effect of Parabolic Reflectors on Wi-Fi Signal

Place: 1

Davidson High School

## **Award: U.S. Public Health Service**

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### **Junior Division**

Participant: Jack Bell

Project Cat. and No.: BE 114 Commit To Be Fit

Place: 1

Mill Creek Elementary School

### **Senior Division**

Participant: James Pruitt

Project Cat. and No.: ME 748 Measuring Impacts That Can Cause Concussions

Place: 1

St. John Paul II Catholic High School

## **Award: U.S. Space and Rocket Center**

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### **Junior Division**

Participant: Erin Wallace

Project Cat. and No.: N 247 "BE STRONG" I Whispered To My Wi-Fi Signal

Place: 1

Muscle Shoals Middle School

### **Senior Division**

Participant: Elena Smith

Project Cat. and No.: EM 680 Low-Cost Laser Scatterometer for Home Air Quality

Place: 1 Measurement

St. John Paul II Catholic High School

## **Award: United States Air Force**

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### **Senior Division**

Participant: Zahab Aleezada

Project Cat. and No.: BE 522 How Using the Internet Affects Teenagers' Health (Using BMI)

Place: 1

Alabama School of Fine Arts

Participant: Sara Lewis

Tiffany Salas-Lopez

Project Cat. and No.: CS 601 Budget Assistance App for Grocery Shopping

Place: 1

Hewitt-Trussville High School

Participant: Hunter Phillips

Project Cat. and No.: ET 624 Development of a Novel Unmanned Aerial Vehicle (UAV):

Place: 1 Nanoscale Transverse Tilt-rotor Helicopter

Covenant Christian Academy

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery

Place: 1 Management System for Electric and Hybrid Electric Vehicles

Covenant Christian Academy

## **Award: Von Braun Astronomical Society**

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### **Junior Division**

Participant: Maya Cassady

Project Cat. and No.: Z 381 Surface Ages of Planetary Bodies

Place: 1

Indian Springs School



## **Award: Yale Science and Engineering Association**

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### **Senior Division**

Participant: Kennedy MacDonald

Project Cat. and No.: ET 622 Flying Boats? Using Aerodynamics to Increase the Efficiency of  
Place: 1 Hydrodynamics: Part 2  
Davidson High School

Participant: Drew Prevost

Project Cat. and No.: EE 643 Design and Construction of a Scalable Active Battery  
Place: 1 Management System for Electric and Hybrid Electric Vehicles  
Covenant Christian Academy