

2016 ALABAMA SCIENCE ENGINEERING FAIR

Special Award Winners

Award: Alabama Geological Society

Junior Division

Participant: Labdhi Mehta

Project Cat. and No.: CH 61 Kick As (Out of Water)

Place: **1**

Indian Springs School

Participant: Joshua Murphree

Project Cat. and No.: E 114 Big Rocks First: Does the Order of Filtration Materials Really

Place: **2** Matter?

Columbia Elementary School

Participant: Kate Owen

Project Cat. and No.: E 117 How to Wash Your Water

Place: **3**

Columbia Elementary School

Senior Division

Participant: Zena Banker

Project Cat. and No.: PS 623 Freshwater not Frackwater: the Effect of Fracking on the
Chlorophyll Content in Vigna unguiculata and the Survival of
Place: **1** Freshwater Algae

Wetumpka High School

Participant: Abigail Knight

Project Cat. and No.: EE 534 The Removal of Arsenic (III) from Contaminated Groundwater in
Place: **2** Developing Countries

Hewitt-Trussville High School

Participant: Ernard Jules Aloria

Emily Pinkston

Project Cat. and No.: CB 380 The Effects of Ocean Acidification on Marine Life

Place: **3**

Wetumpka High School

Award: Alabama Modeling and Simulation Council

Junior Division

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Place: **1** Area in Order to Increase Energy Storage Capacity?
Grace Lutheran School

Participant: Elena Tetrault

Project Cat. and No.: N 93 From Robotics to the Google Car: How to Navigate Through the
Place: **2** World
Hampton Cove Middle School

Participant: Ashwin Prabhakar

Project Cat. and No.: Z 197 Colorful Candies Hide Their True Colors
Place: **3**
Rainbow Elementary School

Senior Division

Participant: David Walker

Project Cat. and No.: MA 551 The Theseus Encryption
Place: **1**
Decatur High School

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler
Place: **2**
South Montgomery County Academy

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography
Place: **3**
Alabama School of Fine Arts

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

Junior Division

Participant: Xavier Murphy

Project Cat. and No.: CH 53 Can the Life Span of a Bubble Be Extended in Different
Temperatures and Atmospheric Conditions?
Place: 1
Oakwood Adventist Academy

Participant: Brian Dublin

Project Cat. and No.: E 110 "Which Wind Turbine Best Harness Wind?"
Place: 2
Oakwood Adventisit Academy

Participant: Mya Smith

Project Cat. and No.: CH 67 What Melts Ice Fastest?
Place: 3
Muscle Shoals Middle School

Senior Division

Participant: Maryssa Craig

Project Cat. and No.: CH 408 Which Moisturizer Works Best?
Place: 1
Holy Spirit Catholic High School

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography
Place: 2
Alabama School of Fine Arts

Participant: Charles Wallington

Project Cat. and No.: PH 602 How Do You Use a Laser Pointer to Measure Space on CDs?
Place: 3
Oakwood Adventist Academy

Award: American Association of University Women

Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EA 423 The Potential of Ferric Oxide as a Removal Method for

Place: 1 Biochemical Contaminants

Jefferson County International
Baccalaureate School

Award: American Chemical Society - The North Alabama Chapter

Junior Division

Participant: Jayden Vanterpool

Project Cat. and No.: CH 52 Can Silver Decrease Bacterial Enzyme Function?

Place: 1

Oakwood Adventist Academy

Participant: Suneeti Chambers

Project Cat. and No.: CH 66 Vitamin C: Is It Just From Oranges?

Place: 2

The Altamont School

Participant: Catherine Blevins

Project Cat. and No.: CH 62 Radiation in My Room

Place: 3

Decatur Presbyterian Church School

Participant: Xavier Murphy

Project Cat. and No.: CH 53 Can the Life Span of a Bubble Be Extended in Different

Place: 4 Temperatures and Atmospheric Conditions?

Oakwood Adventist Academy

Senior Division

Participant: Daniel Vogler

Project Cat. and No.: CH 406 The Wetting Properties of Metallic Substrates Modified with
Organic Self-Assembling Monolayers
Place: 1
James Clemens High School

Participant: Davina Ho

Project Cat. and No.: CH 404 The Effects of Catalysts in the Depolymerization of Chitin Using
Ionic Liquids
Place: 2
Murphy High School

Participant: Maya Padmalayam

Project Cat. and No.: CH 402 Focused Ultrasound-Mediated Targeted Delivery of Polymer-
Encapsulated Drugs: A Novel Therapeutic Strategy for Cancer
Place: 3
Alabama School of Fine Arts

Participant: Varsha Sridhar

Project Cat. and No.: CH 403 The Determination and Bioremediation of Potential Carcinogens,
Bisphenol A (BPA) and Bisphenol S (BPS)
Place: 4
Jefferson County International
Baccalaureate School

Award: American Institute of Aeronautics and Astronautics

Junior Division

Participant: Sydney Hamilton

Project Cat. and No.: N 89 Impact of Wind Turbine Design on Its Performance
Place: 1
JF Drake Middle School

Senior Division

Participant: Adam He

Project Cat. and No.: PH 604 Investigation of the Orbital Stability of Circumbinary Planets in the
Habitable Zone of the Double-Star System Kepler-16
Place: 1
Alabama School of Fine Arts

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter
Place: 1
Alabama School of Fine Arts

Award: American Meteorological Society

Junior Division

Participant: Samba Jalloh
Project Cat. and No.: N 85 Destruction
Place: 1
Islamic Academy of Alabama

Participant: Jade Madison
Project Cat. and No.: E 118 In The Zone
Place: 1
Clark-Shaw Magnet School

Participant: Jackson Stapleton
Project Cat. and No.: E 116 Farmers Meet Drones
Place: 1
East Limestone High School

Senior Division

Participant: Marcus Bush Brenden O'Keefe
Project Cat. and No.: EP 480 A Cool Way To Make Electricity
Place: 1
Stanhope Elmore High School

Participant: Mary Alice Jouve
Project Cat. and No.: PH 600 "Clear Sky at Night, Astronomer's Delight": An Analysis of
Place: 1 Skyglow(Mobile, AL & Miramar Beach, FL)
McGill-Toolen Catholic High School

Participant: Mamecheikh Ka
Project Cat. and No.: PH 606 To Warm A Planet
Place: 1
Auburn Junior High

Award: American Physical Society

Junior Division

Participant: Catherine Blevins
Project Cat. and No.: CH 62 Radiation in My Room
Place: 1
Decatur Presbyterian Church School

Senior Division

Participant: Michael McGinnis
Project Cat. and No.: PH 601 Growth and Measurement of Ices Depending on Input Flow
Rates of Nitrogen Gas for Application in Terahertz Spectroscopy
Place: 1 of Interstellar Ices
Jefferson County International
Baccalaureate School

Award: American Psychological Association

Junior Division

Participant: Haripriya Mantraratnam
Project Cat. and No.: BE 9 The Stroop Effect: Words or Shapes?
Place: 1
Mill Creek Elementary School

Senior Division

Participant: William Locker
Project Cat. and No.: BE 322 College Students' Attitudes Toward Political Candidates: The
Effect of Gender
Place: 1
Murphy High School

Award: American Society of Microbiology

Junior Division

Participant: Sejal Srivastava
Project Cat. and No.: ME 162 Analyzing Alternative Approaches for Testing E. coli in Water in
Support of the Food Safety Modernization Act's Produce Safety
Place: 1 Rule
Auburn Junior High School

Senior Division

Participant: Mitchell McFeely

Project Cat. and No.: MI 571 Analysis of Cell Phone Bacterial Load Reduction and the Effect of Educational Information on Future Behavior: A Multiphase Study
Place: 1
St. John Paul II Catholic High School

Award: Arizona State University - Walton Sustainability Solutions Initiatives

Senior Division

Participant: Rahul Lall

Project Cat. and No.: EM 504 Prognostication of Flexible Batteries in Wearable Electronics
Place: 1
Auburn High School

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle Enhanced Reactive Porous Concrete: Field Testing and Modeling Verification
Place: 1
Auburn High School

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

Junior Division

Participant: Ashley Condurso

Project Cat. and No.: X 143 How Does Grooming a Horse at Rest Lower Their Heartrate Rather Than Just Rest Following Exercise?
Place: 1
St. John the Baptist Catholic School

Participant: Elena Tetrault

Project Cat. and No.: N 93 From Robotics to the Google Car: How to Navigate Through the World
Place: 1
Hampton Cove Middle School

Senior Division

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography

Place: 1

Alabama School of Fine Arts

Participant: Thuan Tran

Christain Golding

Project Cat. and No.: EM 501 Save the Turtles

Place: 1

Hewitt-Trussville High School

Award: ASEF Directors Award, UA Huntsville

Senior Division

Participant: Alexis Jones

Project Cat. and No.: BI 342 Assessment of Macro and Micronutrients in a Recycled Supplement for Canines

Place: 1

Auburn High School

Participant: Mary Alice Jouve

Project Cat. and No.: PH 600 "Clear Sky at Night, Astronomer's Delight": An Analysis of Skyglow(Mobile, AL & Miramar Beach, FL)

Place: 1

McGill-Toolen Catholic High School

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter

Place: 1

Alabama School of Fine Arts

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle Enhanced Reactive Porous Concrete: Field Testing and Modeling Verification

Place: 1

Auburn High School

Award: ASM Materials Education Foundation

Senior Division

Participant: Kenneth Good

Project Cat. and No.: PH 605 Practically Invisible Using Metamaterials

Place: 1

Columbia High School

Participant: Davina Ho

Project Cat. and No.: CH 404 The Effects of Catalysts in the Depolymerization of Chitin Using Ionic Liquids

Place: 1

Murphy High School

Award: Association for Women Geoscientists

Senior Division

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle Enhanced Reactive Porous Concrete: Field Testing and Modeling Verification

Place: 1

Auburn High School

Participant: Brooklyn Massey

Project Cat. and No.: EA 422 The Effects of Hormones on Aquatic Life and How They Alter Gender Patterns

Place: 1

Davidson High School

Award: Association of Energy Engineers (AEE)

Junior Division

Participant: William Ashley

Project Cat. and No.: N 86 Do Super Magnets Make Super Generators: "The Effects of Neodymium Magnets on Simple Electric Generators"

Place: 1

Cornerstone Christian Academy

Participant: Julia Goldberg

Project Cat. and No.: E 120 M&M's

Place: 1

Indian Springs School

Senior Division

Participant: Noel Lange

Project Cat. and No.: EE 531 Kinetic Evaluation of Metal Modified Non-Woven Cotton Fibers
Capable of Removing Sulfur Dioxide

Place: 1

Auburn Junior High School

Participant: Nolan Lenard

Project Cat. and No.: EP 484 Maximizing The Efficiency of Dye-Sensitized Solar Cells

Place: 1

W.P. Davidson High School

Participant: Bela Patel

Project Cat. and No.: EC 462 Emerging Energy of the Future

Place: 1

Indian Springs School

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler

Place: 1

South Montgomery County Academy

Award: BioGENEius Challenge

Senior Division

Participant: Davina Ho

Project Cat. and No.: CH 404 The Effects of Catalysts in the Depolymerization of Chitin Using
Ionic Liquids
Place: 1
Murphy High School

Participant: Noel Lange

Project Cat. and No.: EE 531 Kinetic Evaluation of Metal Modified Non-Woven Cotton Fibers
Capable of Removing Sulfur Dioxide
Place: 1
Auburn Junior High School

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle
Enhanced Reactive Porous Concrete: Field Testing and Modeling
Verification
Place: 1
Auburn High School

Participant: Kelly Nguyen

Project Cat. and No.: CH 409 The Effects of pH on Lead Testing
Place: 1
W.P. Davidson High School

Award: Boeing Company

Junior Division

Participant: Addison Barrow

Project Cat. and No.: ME 167 Don't Fry Your Brain

Place: 1

Clark-Shaw Magnet School

Participant: Brian Dublin

Project Cat. and No.: E 110 "Which Wind Turbine Best Harness Wind?"

Place: 1

Oakwood Adventisit Academy

Participant: Shurooq Elbahrawi

Project Cat. and No.: BZ 22 Eni Mini Miny Mo Where Does The Myoglobin Go?

Place: 1

Islamic Academy of Alabama

Participant: Sydney Hamilton

Project Cat. and No.: N 89 Impact of Wind Turbine Design on Its Performance

Place: 1

JF Drake Middle School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface Area in Order to Increase Energy Storage Capacity?

Place: 1

Grace Lutheran School

Participant: Callie Scroggins

Project Cat. and No.: BE 2 Another Rewarding Experience- A Two-Year Study -

Place: 1

Mill Creek Elementary School

Participant: Jayden Vanterpool

Project Cat. and No.: CH 52 Can Silver Decrease Bacterial Enzyme Function?

Place: 1

Oakwood Adventist Academy

Participant: Maaz Zuberi

Project Cat. and No.: X 146 The Health Effects of Technology

Place: 1

The Altamont School

Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EA 423 The Potential of Ferric Oxide as a Removal Method for
Place: 1 Biochemical Contaminants

Jefferson County International
Baccalaureate School

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography
Place: 1

Alabama School of Fine Arts

Participant: Ansley Chaplin

Project Cat. and No.: AS 305 The Effect of Salinity on the Filtration Function of Oysters
Place: 1

W.H. Davidson High School

Participant: Adam He

Project Cat. and No.: PH 604 Investigation of the Orbital Stability of Circumbinary Planets in the
Place: 1 Habitable Zone of the Double-Star System Kepler-16

Alabama School of Fine Arts

Participant: Davina Ho

Project Cat. and No.: CH 404 The Effects of Catalysts in the Depolymerization of Chitin Using
Place: 1 Ionic Liquids

Murphy High School

Participant: Alexis Jones

Project Cat. and No.: BI 342 Assessment of Macro and Micronutrients in a Recycled
Place: 1 Supplement for Canines

Auburn High School

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter
Place: 1

Alabama School of Fine Arts

Participant: Alena Kim

Project Cat. and No.: MA 550 The Astroid Survey Problem
Place: 1

Alabama School of Fine Arts

Participant: Abigail Knight
Project Cat. and No.: EE 534 The Removal of Arsenic (III) from Contaminated Groundwater in
Developing Countries
Place: 1
Hewitt-Trussville High School

Participant: Nolan Lenard
Project Cat. and No.: EP 484 Maximizing The Efficiency of Dye-Sensitized Solar Cells
Place: 1
W.P. Davidson High School

Participant: Jamie Lim
Project Cat. and No.: CB 381 Cellular and Molecular Analysis of Allicin's Effect on Leukemia
Cells
Place: 1
Murphy High School

Participant: Lucas Lynn
Project Cat. and No.: EM 505 Shear Radial Strength: Using Web Geometry to Create a Better
Body Armor
Place: 1
Wetumpka High School

Participant: Rupa Palanki
Project Cat. and No.: EC 460 Analysis of Glycerol Reactor to Produce Hydrogen for Fuel Cell
Applications
Place: 1
W.P. Davidson High School

Participant: Om Patel
Project Cat. and No.: BH 364 Basal and Maximal Oxygen Consumption Rates Of Human
Umbilical Venous Endothelial Cells (HUVEC) Are Decreased In
Place: 1
Infants Who Die or Develop Bronchopulmonary Dysplasia (BPD)
Alabama School of Fine Arts

Participant: Soha Rasool
Project Cat. and No.: MI 573 The Effects of Synthetic Chemicals on Staphylococcus
Epidermidis
Place: 1
Alabama School of Fine Arts

Participant: Maria Trifas
Project Cat. and No.: PS 620 Seasonal Variations of the Physical Features and Chemical
Properties of the Leaves of Live Oak
Place: 1
Alabama School of Math and Science

Participant: Katherine Welch
Project Cat. and No.: BE 330 Reliability of Memory Recall
Place: 1
St. John Paul II Catholic High School

Participant: Spenser Willard
Project Cat. and No.: TM 661 Can Sensors Be Used to Measure Step Quality?
Place: 1
St. John Paul II Catholic High School

Award: Boeing Engineers Award

Junior Division

Participant: Trisha Agrawal
Project Cat. and No.: X 142 Electronic Eyes for the Blind
Place: 1
Phillips Preparatory School

Participant: William Ashley
Project Cat. and No.: N 86 Do Super Magnets Make Super Generators: "The Effects of Neodymium Magnets on Simple Electric Generators"
Place: 1
Cornerstone Christian Academy

Participant: Ella Burch
Project Cat. and No.: BE 15 Detecting Political Lies
Place: 1
Hampton Cove Middle School

Participant: Sophia MacDonald
Project Cat. and No.: N 87 Electric Waves
Place: 1
Clark-Shaw Magnet School

Participant: Gabriella Smith
Project Cat. and No.: BZ 21 Doggy Drool vs Human Spit Part 2
Place: 1
Hampton Cove Middle School

Senior Division

Participant: Skandan Ananthasekar

Project Cat. and No.: MI 572 Bacterial Profile of Various Illnesses in Order to Determine
Place: 1 Distinct Bacterium
St. Paul's Episcopal School

Participant: Rohan Badve

Project Cat. and No.: BH 368 Natural Oils Protect Human Skin Cells Against Harmful UVB
Place: 1 Radiation: Effective as Sunscreen Agents
W.P. Davidson High School

Participant: Hannah Cowart

Project Cat. and No.: BE 327 The Effect of Verbal Suggestion on Concentration Levels
Place: 1
Jefferson County International
Baccalaureate School

Participant: Arjun Lakhanpal

Project Cat. and No.: TM 660 Apoptotic Effects of Niclosamide and Chemotherapies, With
Place: 1 Potential to Overcome Drug Resistance in Triple Negative Breast
Cancers
The Altamont school

Participant: Danika Louw

Project Cat. and No.: EM 503 Highly Effective Hybrids
Place: 1
Holy Spirit Catholic High School

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler
Place: 1
South Montgomery County Academy

Award: Boeing SLS Award

Senior Division

Participant: Alena Kim

Project Cat. and No.: MA 550 The Astroid Survey Problem
Place: 1
Alabama School of Fine Arts

Award: Broadcom Masters

Junior Division

Participant: Addison Barrow

Project Cat. and No.: ME 167 Don't Fry Your Brain

Place: 1

Clark-Shaw Magnet School

Participant: Brooke Bassett

Project Cat. and No.: BZ 30 Munch Madness

Place: 1

Holy Spirit Catholic High School

Participant: Catherine Blevins

Project Cat. and No.: CH 62 Radiation in My Room

Place: 1

Decatur Presbyterian Church School

Participant: John David Haws

Project Cat. and No.: BE 6 Linked: The Correlation Between Creativity and Stress

Place: 1

Indian Springs School

Participant: Emma Lamb

Project Cat. and No.: CH 54 Casein Plastic: Finding the Best Milk and Acid Combination

Place: 1

Heritage Elementary School

Participant: Mary Katherine Lee

Project Cat. and No.: BE 4 Can you Picture what I can Remember?

Place: 1

Holy Spirit Catholic High School

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves

Place: 1

Clark-Shaw Magnet School

Participant: Jade Madison

Project Cat. and No.: E 118 In The Zone

Place: 1

Clark-Shaw Magnet School

Participant: Miranda Martin

Project Cat. and No.: X 145 RFID - The Bells Toll for Thee

Place: 1

Montevallo Middle School

Participant: Akanksha Rawat

Project Cat. and No.: ME 168 Herbs vs. Antacids

Place: 1

Clark-Shaw Magnet School

Participant: Spencer Sanderson

Project Cat. and No.: BZ 28 Liquid vs Granular: The Great Fertilizer Debate

Place: 1

Mill Creek Elementary School

Participant: Jacob Spence

Zachary Tribble

Project Cat. and No.: Z 190 Keepin' It Cool

Place: 1

East Limestone Middle School

Participant: Benjamin Standaert

Project Cat. and No.: N 83 Can You Find Your Book?

Place: 1

Indian Springs School

Participant: Jackson Stapleton

Project Cat. and No.: E 116 Farmers Meet Drones

Place: 1

East Limestone High School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto

Place: 1

Covenant Christian Academy

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

Junior Division

Participant: Avani Singireddy

Project Cat. and No.: CH 57 Dissolved Oxygen vs Temperature

Place: 1

Mill Creek Elementary School

Participant: Julian Vilardi

Project Cat. and No.: E 121 Nuisance or Not? Using Problem Organisms as Alternative Biofuels

Place: 1

Wetumpka Middle School

Participant: Hader Ahmed

Project Cat. and No.: N 82 Building Materials and Acid Rain

Place: **HM**

Islamic Academy of Alabama

Participant: Brian Dublin

Project Cat. and No.: E 110 "Which Wind Turbine Best Harness Wind?"

Place: **HM**

Oakwood Adventisit Academy

Senior Division

Participant: Thuan Tran

Christain Golding

Project Cat. and No.: EM 501 Save the Turtles

Place: **HM**

Hewitt-Trussville High School

Award: Dr. and Mrs. Graeme Duthie Award

Junior Division

Participant: Sydney Hur

Project Cat. and No.: Z 202 How To Get Shiny Teeth

Place: 1

Mill Creek Elementary School

Award: Greater Huntsville Rotary

Junior Division

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Place: 1 Area in Order to Increase Energy Storage Capacity?
Grace Lutheran School

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves
Place: 2
Clark-Shaw Magnet School

Senior Division

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler
Place: 1
South Montgomery County Academy

Participant: Lucas Lynn

Project Cat. and No.: EM 505 Shear Radial Strength: Using Web Geometry to Create a Better
Place: 2 Body Armor
Wetumpka High School

Award: Huntsville Botanical Gardens

Junior Division

Participant: Ava Muller

Project Cat. and No.: BZ 24 Growth Effects of Different Types of Water on Wheatgrass

Place: 1

The Altamont School

Participant: Spencer Sanderson

Project Cat. and No.: BZ 28 Liquid vs Granular: The Great Fertilizer Debate

Place: 1

Mill Creek Elementary School

Participant: Tricia Smith

Project Cat. and No.: ME 175 Stop! Don't Touch That Doorknob!

Place: 1

St. Joseph Regional Catholic School

Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EA 423 The Potential of Ferric Oxide as a Removal Method for
Biochemical Contaminants

Place: 1

Jefferson County International
Baccalaureate School

Participant: Sarah Reed

Project Cat. and No.: CH 407 Vitamin C: Red vs. Green

Place: 1

St. John Paul II Catholic High School

Award: Huntsville Electro-Optical Society

Junior Division

Participant: Olivia Bailey

Project Cat. and No.: CH 50 "Coming Clean"

Place: **1**

St. Joseph Regional Catholic School

Participant: Miles Thompson

Project Cat. and No.: Z 206 Looking For a Flash of Fire

Place: **1**

St. Joseph Regional Catholic School

Participant: Maanasi Limaye

Project Cat. and No.: N 91 Now You See It, Now You Don't

Place: **2**

Rainbow Elementary School

Participant: Pranav Somu

Project Cat. and No.: Z 216 Ohm's Law: Understanding Parallel and Series Circuits

Place: **2**

Millcreek Elementary School

Participant: Aeneas Anderson

Project Cat. and No.: Z 210 The Data Track Space of a CD/DVD

Place: **3**

Clark-Shaw Magnet School

Participant: Kayley Brown

Project Cat. and No.: CH 59 Glow Stick Frenzy

Place: **HM**

Heritage Elementary School

Senior Division

Participant: Michael McGinnis

Project Cat. and No.: PH 601 Growth and Measurement of Ices Depending on Input Flow
Rates of Nitrogen Gas for Application in Terahertz Spectroscopy
Place: **1** of Interstellar Ices

Jefferson County International
Baccalaureate School

Participant: Nolan Lenard

Project Cat. and No.: EP 484 Maximizing The Efficiency of Dye-Sensitized Solar Cells

Place: **2**

W.P. Davidson High School

Participant: Mary Alice Jouve

Project Cat. and No.: PH 600 "Clear Sky at Night, Astronomer's Delight": An Analysis of
Place: **3** Skyglow(Mobile, AL & Miramar Beach, FL)

McGill-Toolen Catholic High School

Participant: Madison Guilbert

Project Cat. and No.: BH 360 "Exotic Eyesight"

Place: **HM**

St. John Paul II Catholic High School

Participant: Clayton Hutsler

Project Cat. and No.: EP 482 Efficiency of Solar Panels

Place: **HM**

Wetumpka High School

Award: IEEE Huntsville Section

Junior Division

Participant: William Ashley

Project Cat. and No.: N 86 Do Super Magnets Make Super Generators: "The Effects of
Place: 1 Neodymium Magnets on Simple Electric Generators"
Cornerstone Christian Academy

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves
Place: 1
Clark-Shaw Magnet School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Place: 1 Area in Order to Increase Energy Storage Capacity?
Grace Lutheran School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto
Place: 1
Covenant Christian Academy

Senior Division

Participant: Emma Burford Amanda Green, Kaitlin Silverwood

Project Cat. and No.: EM 500 Poor Fine Motor Skills Assistive Touchscreen Device

Place: 1

Hewitt-Trussville High School

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter

Place: 1

Alabama School of Fine Arts

Participant: Rahul Lall

Project Cat. and No.: EM 504 Prognostication of Flexible Batteries in Wearable Electronics

Place: 1

Auburn High School

Participant: Drew Prevost

Project Cat. and No.: ES 440 Development and Systems Integration of a Modular Power Factor Corrected Preconverter, LiFePO4 Battery Charger, DC Motor Controller, and Battery Monitoring System

Place: 1

Covenant Christian Academy

Award: Intel - Excellence in Computer Science

Senior Division

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography

Place: 1

Alabama School of Fine Arts

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter

Place: 1

Alabama School of Fine Arts

Award: International Sustainable World (I-SWEEEP)

Senior Division

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler

Place: 1

South Montgomery County Academy

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle
Enhanced Reactive Porous Concrete: Field Testing and Modeling
Verification

Place: **HM**

Auburn High School

Award: ISEF Finalists

Senior Division

Participant: Hannah James

Project Cat. and No.: BH 365 The Effects of a Natural Extract (Allyl disulfide) on Lymphocyte
Activation

Place: 1

Wetumpka High School

Participant: Alexis Jones

Project Cat. and No.: BI 342 Assessment of Macro and Micronutrients in a Recycled
Supplement for Canines

Place: 1

Auburn High School

Participant: Arjun Lakhanpal

Project Cat. and No.: TM 660 Apoptotic Effects of Niclosamide and Chemotherapies, With
Potential to Overcome Drug Resistance in Triple Negative Breast
Cancers

Place: 1

The Altamont school

Participant: Jamie Lim

Project Cat. and No.: CB 381 Cellular and Molecular Analysis of Allicin's Effect on Leukemia
Cells

Place: 1

Murphy High School

Award: Junior Grand Awards

Junior Division

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves

Place: 1

Clark-Shaw Magnet School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface Area in Order to Increase Energy Storage Capacity?

Place: 1

Grace Lutheran School

Participant: Nikitha Sridhar

Project Cat. and No.: ME 164 Brain's Processing of Novelty Information: Effects of Working Memory Resources

Place: 1

Auburn Junior High School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto

Place: 1

Covenant Christian Academy

Award: Mu Alpha Theta

Senior Division

Participant: Rahul Lall

Project Cat. and No.: EM 504 Prognostication of Flexible Batteries in Wearable Electronics

Place: 1

Auburn High School

Participant: David Walker

Project Cat. and No.: MA 551 The Theseus Encryption

Place: 1

Decatur High School

Award: NASA EARTH System Science Award

Junior Division

Participant: Jade Madison

Project Cat. and No.: E 118 In The Zone

Place: 1

Clark-Shaw Magnet School

Senior Division

Participant: Briganna Abernathy

Project Cat. and No.: EA 423 The Potential of Ferric Oxide as a Removal Method for
Biochemical Contaminants

Place: 1

Jefferson County International
Baccalaureate School

Award: National Aeronautics & Space Administration

Junior Division

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Area in Order to Increase Energy Storage Capacity?

Place: 1

Grace Lutheran School

Senior Division

Participant: Adam He

Project Cat. and No.: PH 604 Investigation of the Orbital Stability of Circumbinary Planets in the Habitable Zone of the Double-Star System Kepler-16
Place: 1
Alabama School of Fine Arts

Participant: Alena Kim

Project Cat. and No.: MA 550 The Astroid Survey Problem
Place: 1
Alabama School of Fine Arts

Participant: Rahul Lall

Project Cat. and No.: EM 504 Prognostication of Flexible Batteries in Wearable Electronics
Place: 1
Auburn High School

Participant: Michael McGinnis

Project Cat. and No.: PH 601 Growth and Measurement of Ices Depending on Input Flow Rates of Nitrogen Gas for Application in Terahertz Spectroscopy of Interstellar Ices
Place: 1
Jefferson County International Baccalaureate School

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

Junior Division

Participant: Brian Dublin

Project Cat. and No.: E 110 "Which Wind Turbine Best Harness Wind?"
Place: 1
Oakwood Adventisit Academy

Senior Division

Participant: Ernard Jules Aloria

Emily Pinkston

Project Cat. and No.: CB 380 The Effects of Ocean Acidification on Marine Life
Place: 1
Wetumpka High School

Award: Ricoh Americas Corporation

Junior Division

Participant: Sejal Srivastava

Project Cat. and No.: ME 162 Analyzing Alternative Approaches for Testing E. coli in Water in
Support of the Food Safety Modernization Act's Produce Safety
Place: 1 Rule
Auburn Junior High School

Senior Division

Participant: Danika Louw

Project Cat. and No.: EM 503 Highly Effective Hybrids
Place: 1
Holy Spirit Catholic High School

Award: Society for In Vitro Biology

Senior Division

Participant: Arjun Lakhanpal

Project Cat. and No.: TM 660 Apoptotic Effects of Niclosamide and Chemotherapies, With
Potential to Overcome Drug Resistance in Triple Negative Breast
Place: 1 Cancers
The Altamont school

Participant: Aarthi Namasivayam

Project Cat. and No.: BH 366 Biocompatibility of Polyoxmethylen Bioreactors for Tissue-
Engineered Vascular Models
Place: 1
The Altamont School

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

Junior Division

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Place: 1 Area in Order to Increase Energy Storage Capacity?
Grace Lutheran School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto
Place: 1
Covenant Christian Academy

Senior Division

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle
Place: 1 Enhanced Reactive Porous Concrete: Field Testing and Modeling
Verification
Auburn High School

Participant: Drew Prevost

Project Cat. and No.: ES 440 Development and Systems Integration of a Modular Power Factor
Place: 1 Corrected Preconverter, LiFePO₄ Battery Charger, DC Motor
Controller, and Battery Monitoring System
Covenant Christian Academy

Award: Soil & Water Conservation Society

Junior Division

Participant: Connor Copeland

Project Cat. and No.: E 127 How Fertilizer Effects Growth on Algae in Pond Water
Place: 1
Columbia Elementary

Participant: Elijah Sheffer

Project Cat. and No.: E 125 Water Through Soil
Place: 1
Holy Spirit Catholic High School

Senior Division

Participant: Ansley Chaplin

Project Cat. and No.: AS 305 The Effect of Salinity on the Filtration Function of Oysters

Place: 1

W.H. Davidson High School

Participant: Varsha Sridhar

Project Cat. and No.: CH 403 The Determination and Bioremediation of Potential Carcinogens,
Bisphenol A (BPA) and Bisphenol S (BPS)

Place: 1

Jefferson County International
Baccalaureate School

Award: South Mobile County Community Development Corporation Award

Junior Division

Participant: Emma Keel

Project Cat. and No.: CH 68 What Metal is Most Susceptible to Corrosion

Place: 1

Hampton Cove Middle School

Senior Division

Participant: Ernard Jules Aloria

Emily Pinkston

Project Cat. and No.: CB 380 The Effects of Ocean Acidification on Marine Life

Place: 1

Wetumpka High School

Participant: Sarah Bowman

Project Cat. and No.: AS 302 Lethal Versus Non-lethal Methods of Aging *Lutjanus
campechanus*

Place: 1

Murphy High School

Participant: Ansley Chaplin

Project Cat. and No.: AS 305 The Effect of Salinity on the Filtration Function of Oysters

Place: 1

W.H. Davidson High School

Award: SPIE - The International Society for Optics & Photonics

Junior Division

Participant: Ella Michael

Project Cat. and No.: Z 208 Radiant Absorbency of Different Colors and Materials

Place: 1

Huntsville Junior High School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface Area in Order to Increase Energy Storage Capacity?

Place: 1

Grace Lutheran School

Participant: Jacob Spence

Zachary Tribble

Project Cat. and No.: Z 190 Keepin' It Cool

Place: 1

East Limestone Middle School

Senior Division

Participant: Rohan Badve

Project Cat. and No.: BH 368 Natural Oils Protect Human Skin Cells Against Harmful UVB Radiation: Effective as Sunscreen Agents

Place: 1

W.P. Davidson High School

Participant: Adam He

Project Cat. and No.: PH 604 Investigation of the Orbital Stability of Circumbinary Planets in the Habitable Zone of the Double-Star System Kepler-16

Place: 1

Alabama School of Fine Arts

Participant: Connor Reed

Project Cat. and No.: PH 607 Ultrasonic Levitation

Place: 1

St. John Paul II Catholic High School

Award: Stockholm Junior Water Prize

Senior Division

Participant: Ansley Chaplin

Project Cat. and No.: AS 305 The Effect of Salinity on the Filtration Function of Oysters

Place: **HM**

W.H. Davidson High School

Participant: Briganna Abernathy

Project Cat. and No.: EA 423 The Potential of Ferric Oxide as a Removal Method for
Biochemical Contaminants

Place: **1**

Jefferson County International
Baccalaureate School

Participant: Zena Banker

Project Cat. and No.: PS 623 Freshwater not Frackwater:the Effect of Fracking on the
Chlorophyll Content in Vigna unguiculata and the Survival of
Freshwater Algae

Place: **1**

Wetumpka High School

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle
Enhanced Reactive Porous Concrete: Field Testing and Modeling
Verification

Place: **1**

Auburn High School

Participant: Brooklyn Massey

Project Cat. and No.: EA 422 The Effects of Hormones on Aquatic Life and How They Alter
Gender Patterns

Place: **1**

Davidson High School

Participant: Varsha Sridhar

Project Cat. and No.: CH 403 The Determination and Bioremediation of Potential Carcinogens,
Bisphenol A (BPA) and Bisphenol S (BPS)

Place: **1**

Jefferson County International
Baccalaureate School

Award: Teledyne Brown Engineering Award

Junior Division

Participant: Catherine Blevins

Project Cat. and No.: CH 62 Radiation in My Room

Place: 1

Decatur Presbyterian Church School

Senior Division

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter

Place: 1

Alabama School of Fine Arts

Participant: Michael McGinnis

Project Cat. and No.: PH 601 Growth and Measurement of Ices Depending on Input Flow
Rates of Nitrogen Gas for Application in Terahertz Spectroscopy
of Interstellar Ices

Place: 1

Jefferson County International
Baccalaureate School

Award: Tennessee Valley Authority

Junior Division

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves

Place: 1

Clark-Shaw Magnet School

Senior Division

Participant: Viviana Aragon

Project Cat. and No.: EE 532 Pharmaceutical Pollution in Bodies of Water

Place: 1

James Clemens High School

Participant: Sarah Bowman

Project Cat. and No.: AS 302 Lethal Versus Non-lethal Methods of Aging *Lutjanus campechanus*

Place: 1

Murphy High School

Participant: Elijah Greene

Travis Gunn

Project Cat. and No.: EP 481 Renewable Power Trekking Pole

Place: 1

Hewitt-Trussville High School

Participant: Abigail Knight

Project Cat. and No.: EE 534 The Removal of Arsenic (III) from Contaminated Groundwater in Developing Countries

Place: 1

Hewitt-Trussville High School

Participant: Megan Lange

Project Cat. and No.: EE 533 Removal of BTEX from Storm Water using Nanoparticle Enhanced Reactive Porous Concrete: Field Testing and Modeling Verification

Place: 1

Auburn High School

Participant: Nolan Lenard

Project Cat. and No.: EP 484 Maximizing The Efficiency of Dye-Sensitized Solar Cells

Place: 1

W.P. Davidson High School

Award: Toyota Motor Manufacturing Company

Junior Division

Participant: Miranda Martin

Project Cat. and No.: X 145 RFID - The Bells Toll for Thee

Place: 1

Montevallo Middle School

Senior Division

Participant: Drew Prevost

Project Cat. and No.: ES 440 Development and Systems Integration of a Modular Power Factor
Corrected Preconverter, LiFePO₄ Battery Charger, DC Motor
Place: 1 Controller, and Battery Monitoring System

Covenant Christian Academy

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

Junior Division

Participant: Isaac Ford Tyler Lawson; Grayson Norman

Project Cat. and No.: N 80 The OLV 500

Place: **2**

Our Lady of the Valley

Participant: Olivia Gay

Project Cat. and No.: ME 169 Keeping It Smooth

Place: **2**

West Madison Elementary School

Participant: Ramy Mansur

Project Cat. and No.: ME 171 Natural Acne Gents

Place: **2**

Islamic Academy Of Alabama

Participant: Bennett Rigby

Project Cat. and No.: X 141 Compression: Is It Worth The Time?

Place: **2**

St. John the Baptist Catholic School

Participant: Benjamin Standaert

Project Cat. and No.: N 83 Can You Find Your Book?

Place: **2**

Indian Springs School

Participant: Trisha Agrawal

Project Cat. and No.: X 142 Electronic Eyes for the Blind

Place: **HM**

Phillips Preparatory School

Participant: Aeneas Anderson

Project Cat. and No.: Z 210 The Data Track Space of a CD/DVD

Place: **HM**

Clark-Shaw Magnet School

Participant: William Ashley

Project Cat. and No.: N 86 Do Super Magnets Make Super Generators: "The Effects of Neodymium Magnets on Simple Electric Generators"

Place: **HM**

Cornerstone Christian Academy

Participant: Olivia Bailey

Project Cat. and No.: CH 50 "Coming Clean"

Place: **HM**

St. Joseph Regional Catholic School

Participant: Alison Boardwine

Project Cat. and No.: BZ 27 Jumping Into Biomechanics

Place: **HM**

Eclectic Middle School

Participant: Michael Robert Bollinger

Project Cat. and No.: BE 7 Sneaky Sugar

Place: **HM**

Challenger Elementary School

Participant: Andrew Clark

Project Cat. and No.: CH 60 Keep Your Cool

Place: **HM**

Muscle Shoals Middle School

Participant: Megan Danh

Project Cat. and No.: Z 203 How Well Do Different Materials Create Electricity?

Place: **HM**

Rainbow Elementary School

Participant: Brian Dublin

Project Cat. and No.: E 110 "Which Wind Turbine Best Harness Wind?"

Place: **HM**

Oakwood Adventisit Academy

Participant: Mustafa Eltoum

Project Cat. and No.: BZ 29 Manual vs. Drip Irrigation

Place: **HM**

Islamic Academy of Alabama

Participant: Riley Jordan

Project Cat. and No.: N 81 "The Hovercraft...Floating on Air!"

Place: **HM**

Carver Magnet School

Participant: Emma Keel

Project Cat. and No.: CH 68 What Metal is Most Susceptible to Corrosion

Place: **HM**

Hampton Cove Middle School

Participant: Summer Kynard

Project Cat. and No.: N 88 Hydroelectric Generator

Place: **HM**

Horizon Elementary

Participant: Maanasi Limaye

Project Cat. and No.: N 91 Now You See It, Now You Don't

Place: **HM**

Rainbow Elementary School

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves

Place: **HM**

Clark-Shaw Magnet School

Participant: Haripriya Mantraratnam

Project Cat. and No.: BE 9 The Stroop Effect: Words or Shapes?

Place: **HM**

Mill Creek Elementary School

Participant: Joshua Murphree

Project Cat. and No.: E 114 Big Rocks First: Does the Order of Filtration Materials Really Matter?

Place: **HM**

Columbia Elementary School

Participant: Talal Naser

Project Cat. and No.: X 144 Indirect Measurements

Place: **HM**

Islamic Academy Of Alabama

Participant: Kate Owen

Project Cat. and No.: E 117 How to Wash Your Water

Place: **HM**

Columbia Elementary School

Participant: Deven Patel

Project Cat. and No.: ME 166 Destroying Diabetes

Place: **HM**

Indian Springs School

Participant: Akanksha Rawat

Project Cat. and No.: ME 168 Herbs vs. Antacids

Place: **HM**

Clark-Shaw Magnet School

Participant: Emms Schaetzle

Project Cat. and No.: ME 161 "Death Grip"

Place: **HM**

Holy Spirit Catholic High School

Participant: Callie Scroggins

Project Cat. and No.: BE 2 Another Rewarding Experience- A Two-Year Study -

Place: **HM**

Mill Creek Elementary School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto

Place: **HM**

Covenant Christian Academy

Participant: Jayden Vanterpool

Project Cat. and No.: CH 52 Can Silver Decrease Bacterial Enzyme Function?

Place: **HM**

Oakwood Adventist Academy

Participant: Julian Vilardi

Project Cat. and No.: E 121 Nuisance or Not? Using Problem Organisms as Alternative Biofuels

Place: **HM**

Wetumpka Middle School

Participant: Ella Wiggins

Project Cat. and No.: Z 201 How Far Can a Spark Jump?

Place: **HM**

Beverly Magnet School

Participant: Kameron Woolverton

Project Cat. and No.: N 84 Cool Cooler Coolest

Place: **HM**

Holy Spirit Catholic High School

Participant: Maaz Zuberi

Project Cat. and No.: X 146 The Health Effects of Technology

Place: **HM**

The Altamont School

Senior Division

Participant: Maya Padmalayam

Project Cat. and No.: CH 402 Focused Ultrasound-Mediated Targeted Delivery of Polymer-Encapsulated Drugs: A Novel Therapeutic Strategy for Cancer
Place: 1
Alabama School of Fine Arts

Participant: Edmond Strickland

Project Cat. and No.: EM 502 Dual Purpose Muffler
Place: 1
South Montgomery County Academy

Participant: Madison Guilbert

Project Cat. and No.: BH 360 "Exotic Eyesight"
Place: 2
St. John Paul II Catholic High School

Participant: Avinash Anshumali

Project Cat. and No.: BH 367 Investigating the Anti-Cancer Abilities of Aurpatene
Place: **HM**
W.P. Davidson High School

Participant: Zena Banker

Project Cat. and No.: PS 623 Freshwater not Frackwater:the Effect of Fracking on the Chlorophyll Content in Vigna unguiculata and the Survival of Freshwater Algae
Place: **HM**
Wetumpka High School

Participant: DeMarcus Campbell

Project Cat. and No.: SS 640 A Multi-Functional Algorithm for Audio Steganography
Place: **HM**
Alabama School of Fine Arts

Participant: Eleanor Cox

Lauren "Gracie" Beyer

Project Cat. and No.: CH 400 The Hotter the Crime, the Longer the Time
Place: **HM**
Stanhope Elmore High School

Participant: Eleanor Cox

Lauren "Gracie" Beyer

Project Cat. and No.: CH 400 The Hotter the Crime, the Longer the Time
Place: **HM**
Stanhope Elmore High School

Participant: Sydney Cox

Project Cat. and No.: CB 383 I Can See Clearly Now, The Protein's Gone

Place: **HM**

Wetumpka High School

Participant: Rowan ElQishawi

Rozan ElQishawi

Project Cat. and No.: PS 621 Asian Lady Beetles...Infestation Or Curation!"A NoveStudy to Evaluate the Efficacy of Harmonia Axyridis Hemolymph as a Pesticide to Control Diaphorina Citri (Asian Citrus Psyllid), and as an Antibiotic Against the Huanglongbing (HLB) Disease causing Libe

Place: **HM**

Hoover High School

Participant: Richard Fu

Danielle Wu

Project Cat. and No.: MI 570 Probiotics in Yogurts and Their Potential Impacts on Human Health

Place: **HM**

Vestavia Hills High School / Indian Springs School

Participant: Hannah James

Project Cat. and No.: BH 365 The Effects of a Natural Extract (Allyl disulfide) on Lymphocyte Activation

Place: **HM**

Wetumpka High School

Participant: Kenneth Jiao

Project Cat. and No.: BH 362 An Epigenetic Factor, CHD7, Inhibits Migration of Metastatic Breast Cancer Cells

Place: **HM**

Indian Springs School

Participant: Pongbhud Kankirawatana

Project Cat. and No.: CB 382 Connexin 26 and Connexin 30 Mutations in CMV-related Sensorineural Hearing Loss

Place: **HM**

Alabama School of Fine Arts

Participant: Alena Kim

Project Cat. and No.: MA 550 The Astroid Survey Problem

Place: **HM**

Alabama School of Fine Arts

Participant: William Locker

Project Cat. and No.: BE 322 College Students' Attitudes Toward Political Candidates: The Effect of Gender

Place: **HM**

Murphy High School

Participant: Jessica Maggi

Project Cat. and No.: BE 14 To Read or Not to Read

Place: **HM**

Holy Spirit Catholic High School

Participant: Addison Meeks

Project Cat. and No.: BE 328 Total Recall: Phase Two of Do You See What I See?

Place: **HM**

Auburn High School

Participant: Isabella Morrow

Project Cat. and No.: BH 361 "The Effect of Electrolytes on the Heart Rate of Daphnia Magna"

Place: **HM**

Shoals Christian School

Participant: Charles Wallington

Project Cat. and No.: PH 602 How Do You Use a Laser Pointer to Measure Space on CDs?

Place: **HM**

Oakwood Adventist Academy

Participant: Spenser Willard

Project Cat. and No.: TM 661 Can Sensors Be Used to Measure Step Quality?

Place: **HM**

St. John Paul II Catholic High School

Participant: Sydney Woodring

Project Cat. and No.: AS 304 Which Type of Horse Boot Creates Less Heat?

Place: **HM**

St. John Paul II Catholic High School

Award: U.S. Metric Association

Senior Division

Participant: Danika Louw

Project Cat. and No.: EM 503 Highly Effective Hybrids

Place: **1**

Holy Spirit Catholic High School

Participant: Rupa Palanki

Project Cat. and No.: EC 460 Analysis of Glycerol Reactor to Produce Hydrogen for Fuel Cell Applications

Place: **1**

W.P. Davidson High School

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

Junior Division

Participant: Sophia MacDonald

Project Cat. and No.: N 87 Electric Waves

Place: 1

Clark-Shaw Magnet School

Participant: Rachel Majumder

Project Cat. and No.: CH 64 Temperature Effect on the Enzyme Catalase

Place: 1

Clark-Shaw Magnet School

Participant: Jordan Reynolds-Gleason

Project Cat. and No.: Z 196 Can a Graphene Capacitor be 3D Printed with Higher Surface
Area in Order to Increase Energy Storage Capacity?

Place: 1

Grace Lutheran School

Participant: Jackson Stapleton

Project Cat. and No.: E 116 Farmers Meet Drones

Place: 1

East Limestone High School

Participant: Riley Tucker

Project Cat. and No.: E 124 Use of a Microbial Fuel Cell

Place: 1

Clark-Shaw Magnet School

Participant: Naomi VanHouten

Project Cat. and No.: X 140 "Domo Arigato" Precision Roboto

Place: 1

Covenant Christian Academy

Senior Division

Participant: Pongbhud Kankirawatana

Project Cat. and No.: CB 382 Connexin 26 and Connexin 30 Mutations in CMV-related
Place: 1 Sensorineural Hearing Loss
Alabama School of Fine Arts

Participant: Abigail Knight

Project Cat. and No.: EE 534 The Removal of Arsenic (III) from Contaminated Groundwater in
Place: 1 Developing Countries
Hewitt-Trussville High School

Participant: Arjun Lakhanpal

Project Cat. and No.: TM 660 Apoptotic Effects of Niclosamide and Chemotherapies, With
Place: 1 Potential to Overcome Drug Resistance in Triple Negative Breast
Cancers
The Altamont school

Participant: Jamie Lim

Project Cat. and No.: CB 381 Cellular and Molecular Analysis of Allicin's Effect on Leukemia
Place: 1 Cells
Murphy High School

Participant: Rupa Palanki

Project Cat. and No.: EC 460 Analysis of Glycerol Reactor to Produce Hydrogen for Fuel Cell
Place: 1 Applications
W.P. Davidson High School

Award: U.S. Space and Rocket Center

Junior Division

Participant: William Ashley

Project Cat. and No.: N 86 Do Super Magnets Make Super Generators: "The Effects of
Place: 1 Neodymium Magnets on Simple Electric Generators"
Cornerstone Christian Academy

Senior Division

Participant: Drew Prevost

Project Cat. and No.: ES 440 Development and Systems Integration of a Modular Power Factor
Place: 1 Corrected Preconverter, LiFePO₄ Battery Charger, DC Motor
Controller, and Battery Monitoring System
Covenant Christian Academy

Award: United States Air Force

Senior Division

Participant: Elijah Greene Travis Gunn

Project Cat. and No.: EP 481 Renewable Power Trekking Pole

Place: 1

Hewitt-Trussville High School

Participant: Hamza Khan

Project Cat. and No.: ES 441 Object Detection and Tracking with OpenCV and a Quadcopter

Place: 1

Alabama School of Fine Arts

Participant: Lucas Lynn

Project Cat. and No.: EM 505 Shear Radial Strength: Using Web Geometry to Create a Better

Place: 1 Body Armor

Wetumpka High School

Participant: David Walker

Project Cat. and No.: MA 551 The Theseus Encryption

Place: 1

Decatur High School

Award: Von Braun Astronomical Society

Senior Division

Participant: Mary Alice Jouve

Project Cat. and No.: PH 600 "Clear Sky at Night, Astronomer's Delight": An Analysis of

Place: 1 Skyglow(Mobile, AL & Miramar Beach, FL)

McGill-Toolen Catholic High School

Award: Yale Science and Engineering Association

Senior Division

Participant: Arjun Lakhanpal

Project Cat. and No.: TM 660 Apoptotic Effects of Niclosamide and Chemotherapies, With
Place: 1 Potential to Overcome Drug Resistance in Triple Negative Breast
Cancers
The Altamont school

Participant: Rupa Palanki

Project Cat. and No.: EC 460 Analysis of Glycerol Reactor to Produce Hydrogen for Fuel Cell
Place: 1 Applications
W.P. Davidson High School