

# UAB-CORD CARSEF Winners

March 5, 2016

## CARSEF TOP HONORS & INTEL WINNERS

**Travis Gunn & Elijah Greene**

12<sup>th</sup> Grade

Hewitt-Trussville High School

Project Title – *Renewable Power Trekking Pole*

**Rowan ElQishawi & Rozan ElQishawi**

12<sup>th</sup> Grade & 10<sup>th</sup> Grade

Hoover High School

Project Title – *A Novel Duel Study of Utilizing the Active Ingredients in the Lady Beetles' Hemolymph as a Special Pesticide to Control Asian Citrus Psyllid and as an Antibiotic to Possibly Cure the Huanglongbing Disease*

**DeMarcus Campbell**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Creating a Multi-Functional Algorithm for Audio Steganography*

**Kenneth Jiao**

10<sup>th</sup> Grade

Indian Springs School

Project Title – *An Epigenetic Factor, CHD7, Inhibits Migration of Metastatic Breast Cancer*

# CARSEF Category Winners

## Senior Division

### BEHAVIORAL AND SOCIAL SCIENCES

#### 1st Place

**Ava Michl**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Heat Pain Sensitivity in Individuals with HIV*

#### 2nd Place

**Duha Aishah**

9<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *My Anxieties Have Anxieties*

#### 3rd Place

**Hannah Cowart**

9<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Effect of Verbal Suggestion on Concentration Levels in Students*

#### Honorable Mention

**Makayla Cole**

9<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Effect of Various Alarm Sounds on the Arousal Time of People*

#### Honorable Mention

**Myra Rana**

10<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Bigger, Bolder, Better: An Observational Study on Consumer Psychology*

#### Honorable Mention

**Andrew Boyd**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Political Reapportionment Through Analysis of Population Demographics*

## BIOLOGY

### 1st Place

**Danielle Wu & Richard Fu**

10<sup>th</sup> Grade

Indian Springs School & Vestavia Hills High School

Project Title – *Probiotics in Yogurt and the Potential Effects on Human Health*

### 2nd Place

**Soha Rasool**

10<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *The Effects of Synthetic Chemicals on Staphylococcus Epidermidis*

### 3rd Place

**Pongbhud Kankirawatana**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Connexin 26 and Connexin 30 Mutations in CMV-related Sensorineural Hearing Loss*

### Honorable Mention

**Neelu Varghese**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *The Role of Oxidative Stress and Mitochondria on Skeletal Muscle Differentiation*

### Honorable Mention

**Blake Adams**

12<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Effects of Temperature, Electromagnetic Radiation, and Pressure of Fertilizer on the Emergence Time of Mosquitos*

### Honorable Mention

**Jessica Maye & Amber Lowe**

11<sup>th</sup> Grade

Jackson Olin High School

Project Title – *Breathe In Breathe Out*

## CHEMISTRY

### 1st Place

**Varsha Sridhar**

11<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Determination and Bioremediation of Potential Carcinogens, BPA and BPS*

### 2nd Place

**Maya Padmalayam**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Focused Ultrasound Mediated Targeted Delivery of Polymer – Encapsulated Drugs: A Novel Therapeutic Strategy for Cancer*

### 3rd Place

**Nada Shoreibah**

9<sup>th</sup> Grade

Indian Springs School

Project Title – *A Sensible Solution (Detergent for Feathers)*

### Honorable Mention

**Abby Harris**

12<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Effect of Pepsin Concentration on the Digestion Rate of Egg Alumin*

### Honorable Mention

**Yu-Hsuan Chang & Huan-Yu Chang**

10<sup>th</sup> Grade & 9<sup>th</sup> Grade

Altamont School

Project Title – *Identification of Adulterated Alcohol*

### Honorable Mention

**Mariah Smith**

12<sup>th</sup> Grade

Pell City High School

Project Title – *How Sweet It Is! Measuring Glucose In Your Food*

## ENERGY AND TRANSPORTATION

### 1st Place

**Travis Gunn & Elijah Greene**  
12<sup>th</sup> Grade  
Hewitt-Trussville High School  
Project Title – *Renewable Power Trekking Pole*

### 2nd Place

**Bela Patel**  
10<sup>th</sup> Grade  
Indian Springs School  
Project Title – *Emerging Energy of the Future*

### 3rd Place

**Miguel Gonzalez**  
9<sup>th</sup> Grade  
Jefferson County International Bacculaureate  
Project Title – *Battery Life of Smartphones in Different Temperature Conditions*

### Honorable Mention

**Catherine Thomas**  
9<sup>th</sup> Grade  
Jefferson County International Bacculaureate  
Project title – *Blowing Through: The Efficiency of Windmills*

### Honorable Mention

**Hyo In Park**  
9<sup>th</sup> Grade  
Indian Springs School  
Project title – *Aerodynamic Me*

## ENGINEERING

### 1st Place

**Emma Burford, Amanda Green & Kaitlin Silverwood**

12<sup>th</sup> Grade

Hewitt-Trussville High School

Project Title – *Poor Fine Motor Skills Assistive Touchscreen Device*

### 2nd Place

**Aarthi Namasivayam**

11<sup>th</sup> Grade

Altamont School

Project Title – *Biocompatibility of Polyoxymethylene Bioreactors for Tissue Engineered Vascular Models*

### 3rd Place

**Hamza Khan**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Object Detection and Tracking with a Quadcopter ad Open CV*

### Honorable Mention

**Joseph Jun**

10<sup>th</sup> Grade

Hoover High School

Project Title – *Multifunctional Temperature Sensitive Gel to Control Blood Loss*

### Honorable Mention

**Lily Huff**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Achieving Bipedal Locomotion on Amber 38*

### Honorable Mention

**Myles Owens**

10<sup>th</sup> Grade

Jefferson County International Bacculaureate

Project Title – *Effect of Trebuchet Arm Length on Projectile Distance*

## ENVIRONMENTAL AND EARTH SCIENCES

### 1st Place

**Rowan ElQishawi & Rozan ElQishawi**

12<sup>th</sup> Grade & 10<sup>th</sup> Grade

Hoover High School

Project Title – *A Novel Dual Study of Utilizing the Active Ingredients in the Lady Beetles' Hemolymph as a Special Pesticide to Control Asian Citrus Psyllid and as an Antibiotic to Possibly Cure the Huanglongbing Disease*

### 2nd Place

**Briganna Abernathy**

12<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Removal of Oil From Water Through Ferrofluid and Magnets*

### 3rd Place

**Abigail Knight & Katherine Witte**

12<sup>th</sup> Grade

Hewitt-Trussville High School

Project Title – *The Removal of Arsenic (III) from Contaminated Groundwater in Developing Countries*

### Honorable Mention

**Thuan Tran & Christian Golding**

12<sup>th</sup> Grade

Hewitt-Trussville High School

Project Title – *Save the Turtles*

### Honorable Mention

**Wamda Eltoum**

9<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Cinnamon Acts as a Rooting Hormone: Mechanism of Action*

### Honorable Mention

**Marie Harris**

11<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *A Study on Color Inclination of Variant Rhopalocera Species*

## MATHEMATICS AND COMPUTER SCIENCES

### 1st Place

**DeMarcus Campbell**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Creating a Multi-functional Algorithm for Audio Steganography*

### 2nd Place

**Turner Atwood**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Using Hand Gestures for Alternative User Verification*

### 3rd Place

**Alena Kim**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *The Asteroid Survey Problem*

### Honorable Mention

**Dmitriy Antselevich**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Relaying Patient Surgical Site Information Post-Discharge to Decrease Infections Using Mobile Devices*

### Honorable Mention

**Will Davis**

9<sup>th</sup> Grade

Indian Springs School

Project Title – *Whose Line is it Anyway?*

### Honorable Mention

**Jordan Fluker**

9<sup>th</sup> Grade

Pell City High School

Project Title – *How Secure is Your Password?*



## MEDICINE AND HEALTH SCIENCES

### 1st Place

**Kenneth Jiao**

10<sup>th</sup> Grade

Indian Springs School

Project Title – *CHD7 Inhibits Migration of Metastatic Breast Cancer*

### 2nd Place

**Om Patel**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Basal and Maximal O2 Consumption Rates of HUVEC are Decreased in Infants who Die or Develop BPD*

### 3rd Place

**Arjun Lakhanpal**

11<sup>th</sup> Grade

Altamont School

Project Title – *Apoptotic Effects of Niclosamide and Chemotherapy with Potential to Overcome Drug Resistances in Triple Negative Breast Cancers*

### Honorable Mention

**Arjun Guru & Maya Guru**

11<sup>th</sup> Grade & 9<sup>th</sup> Grade

Altamont School

Project Title – *Determination of Activity of Kinases in Muscle-invasive Bladder Cancer Compared to Adjacent Normal Bladder to Identify Drivers of Cancer Growth and Therapeutic Targets*

### Honorable Mention

**Gabriela Pfau-Palominos**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Protocol Development for Use of Near-Infrared Spectroscopy to Measure Difficulty of a Cognitive Task*

### Honorable Mention

**Tomeka Friesen**

11<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *The Effect of the Total Antioxidant Capacity of Various Fruits and Vegetables on the Ability to Eliminate the Free Radical Hydrogen Peroxide*

## PHYSICAL SCIENCES

### 1st Place

**Michael McGinnis**

12<sup>th</sup> Grade

Jefferson County International Baccalaureate

Project Title – *Growth and Measurement of Ices for Application in the Terahertz Spectroscopy of  
Interstellar Ices*

### 2nd Place

**Adam He**

12<sup>th</sup> Grade

Alabama School of Fine Arts

Project Title – *Investigation of the Orbital Stability of Circumbinary Planets in the Habitable Zone of the  
Double-star System Kepler 16*

### 3rd Place

**Braden Crow**

10<sup>th</sup> Grade

Pell City High School

Project Title – *What Brand Baseball is Best Through Heavy Wind Conditions*

### Honorable Mention

**Maya Cassady**

9<sup>th</sup> Grade

Indian Springs School

Project Title – *Surface Ages of Lunar Basins*

### Honorable Mention

**Seay Lawson**

9<sup>th</sup> Grade

Pell City High School

Project Title – *Angry Balls*

### Honorable Mention

**Mary Rhiannon Powell**

12<sup>th</sup> Grade

Pell City High School

Project Title – *Come Feel the Noise*

# CARSEF Category Winners

## Junior Division

### BEHAVIORAL AND SOCIAL SCIENCES

#### 1st Place

**Jenna Mekdad**

7<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Bring on the Heat*

#### 2nd Place

**John David Haws**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *LINKED. The Correlation Between Creativity and Stress*

#### 3rd Place

**Sura Ahmed**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *How Fast Are You?*

#### Honorable Mention

**Jane Battle**

6<sup>th</sup> Grade

Altamont School

Project Title – *Does Presentation Affect Taste?*

#### Honorable Mention

**Kylie Snyder**

8<sup>th</sup> Grade

Riverchase Middle School

Project Title – *How Does Text Color Affect Readability?*

#### Honorable Mention

**Adil Al-Jallad**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Music Versus Memory*

## BIOLOGY

### 1st Place

**Ava Muller**

6<sup>th</sup> Grade

Altamont School

Project Title – *How is the Growth of Wheatgrass Affected by Different Types of Water?*

### 2nd Place

**Isadola Steinman**

6<sup>th</sup> Grade

Altamont School

Project Title – *Bacteria What's Your Deal?*

### 3rd Place

**Shurooq Elbahrawi**

7<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Eni Mini Miny Mo Where Does the Myoglobin Go?*

### Honorable Mention

**Taylor Copeland**

6<sup>th</sup> Grade

Phillips Academy

Project Title – *Show Me The Science: Soap vs Hand Sanitizer*

### Honorable Mention

**Scout Carruthers**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Would You Drink The Juice?*

### Honorable Mention

**Mary Elisa Wagner**

8<sup>th</sup> Grade

Altamont School

Project Title – *What's Hiding in Your Hamster's DNA?*

## CHEMISTRY

### 1st Place

**Mehta Labdhi**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Kick As*

### 2nd Place

**Sunseeti Chambers**

8<sup>th</sup> Grade

Altamont School

Project Title – *Vitamin C: Is It Just From Oranges?*

### 3rd Place

**Andrew Williams**

8<sup>th</sup> Grade

Duran North Junior High School

Project Title – *Rethink Your Drink*

### Honorable Mention

**Salena Marino**

5<sup>th</sup> Grade

Our Lady of the Valley

Project Title – *CU Pronto*

### Honorable Mention

**Maymunah Hicks**

7<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Which Milk Contains the Most Protein*

### Honorable Mention

**Kisean Johnson**

8<sup>th</sup> Grade

Phillips Academy

Project Title – *Let's Cool Things Down*

## ENERGY AND TRANSPORTATION

### 1st Place

**Julia Goldberg**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *M&M's!?*

### 2nd Place

**Madeleine Bond**

8<sup>th</sup> Grade

Agape Academy

Project Title – *Solar Source*

### 3rd Place

**Tyler Lawson, Isaac Ford & Grayson Norman**

5<sup>th</sup> Grade

Our Lady of the Valley

Project Title – *The OLV 500*

### Honorable Mention

**Emma Jones**

8<sup>th</sup> Grade

Duran Junior High School

Project Title – *Efficient Solar Energy*

### Honorable Mention

**Jacob Steele, Hall Welborn & Peter Anella**

7<sup>th</sup> Grade

Our Lady of the Valley

Project Title – *3, 2, 1... Launch*

### Honorable Mention

**Andrew Hall**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *The Best Paper Airplane*

## ENGINEERING

### 1st Place

**Ben Standaert**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Can You Find Your Book?*

### 2nd Place

**Hader Ahmed**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Building Material and Acid Rain*

### 3rd Place

**Samba Jalloh**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Destruction*

### Honorable Mention

**William Falconer**

6<sup>th</sup> Grade

Hilltop Montessori School

Project Title – *To Be or Not To Be*

### Honorable Mention

**Suhaib Aishah**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Humpty Dumpty's Inevitable Fate*

### Honorable Mention

**Lina Jabr**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Don't Forget Me*

## ENVIRONMENTAL AND EARTH SCIENCES

### 1st Place

**Mustafa Eltoum**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Drip vs. Manual Irrigation*

### 2nd Place

**Benjamin Appling**

7<sup>th</sup> Grade

Hilltop Montessori School

Project Title – *The Effect of Certain Storage Conditions on the Ripening of Avocados*

### 3rd Place

**Yasmeen Almatubsi**

7<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Air Particles and Air Qualities*

### Honorable Mention

**Madelyn Friday & G.G. Hackett**

7<sup>th</sup> Grade

Nichols-Lawson Middle School

Project Title – *How Does Caffeine Effect Plants*

### Honorable Mention

**Ryan Aldaher**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Can Plants Grow on Mars?*

### Honorable Mention

**Colin Mobley**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Will Antacids Help Plants Affected by Acid Rain?*



## MATHEMATICS AND COMPUTER SCIENCES

### 1st Place

**Miranda Martin & Grace Carr**

8<sup>th</sup> Grade

Montevallo Middle School

Project Title – *RFID Handbells*

### 2nd Place

**Talal Naser**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Indirect Measurements*

### 3rd Place

**Maaz Zuberi**

7<sup>th</sup> Grade

Altamont School

Project Title – *Health Effects of Technology*

### Honorable Mention

**Devin Patel**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Chewing Gun and Testing*

### Honorable Mention

**Clayton Hildebrandt**

8<sup>th</sup> Grade

Duran North Junior High School

Project Title – *The Geometry of Making a Basket*

### Honorable Mention

**Omar Qashou**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Which Search Engine Works Best*

## MEDICINE AND HEALTH SCIENCES

### 1st Place

**Deven Patel**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Destroying Diabetes*

### 2nd Place

**Ramy Mansur**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Natural Acne Agents*

### 3rd Place

**Nooraldein Alabsi**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Which Antacid is Best*

### Honorable Mention

**Kuleen Sasse**

7<sup>th</sup> Grade

Altamont School

Project Title – *Invisible Labels: Do Nutrition Labels Work*

### Honorable Mention

**Rania Khalaf**

7<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Water in Your Lotion*

### Honorable Mention

**Ola Eloubeidi**

6<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *H. pylori: Americans vs. Immigrants*

## PHYSICAL SCIENCES

### 1st Place

**Elizabeth Boackle, Lizzie Ranelli & Sankeerthana Kalva**

5<sup>th</sup> Grade

Our Lady of the Valley School

Project Title – *Yum Yum*

### 2nd Place

**Danyia Ahmad**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Crazy Crystals*

### 3rd Place

**Sidra Karassi**

8<sup>th</sup> Grade

Islamic Academy of Alabama

Project Title – *Which Detergent*

### Honorable Mention

**Skylar Lykes**

6<sup>th</sup> Grade

Phillips Academy

Project Title – *How Far Will It Fly*

### Honorable Mention

**Carson DeSocio**

8<sup>th</sup> Grade

Indian Springs School

Project Title – *Does Leg Strength Affect Power*

### Honorable Mention

**Jonathan Laney**

8<sup>th</sup> Grade

Altamont School

Project Title – *The Effects of Air Pressure on the Distance of a Soccer Ball Goes When Kicked*