

UAB-CORD CARSEF Winners

March 2, 2019

CARSEF TOP HONORS & INTEL WINNERS

Reagan Shoop

12th Grade

Hewitt Trussville High School

Project Title – *Automatic Traumatic Injury and Concussion Alert System (ATICAS)*

Claire Jun

10th Grade

Hoover High School

Project Title – *Liposome Nanoparticle for the Treatment of Vascular Disease*

Eric Cheng

12th Grade

Alabama School of Fine Arts

Project Title – *The Effect of Inhibiting DNA-Protein Kinase and ADP-Ribose Polymerase on Head and Neck Squamous Cell Carcinoma Survivability*

Sid Singh

12th Grade

Alabama School of Fine Arts

Project Title – *Utilizing Native Hyper-Accumulators to Determine Efficient Methods for Heavy Metal Phytoremediation*

CARSEF Category Winners

Senior Division

BEHAVIORAL AND SOCIAL SCIENCES

1st Place

Sommer Carnes

10th Grade

Jefferson County International Baccalaureate

Project Title – *Investigation of Sense Association*

2nd Place

Katherine Malone

12th Grade

Alabama School of Fine Arts

Project Title – *Effects of Chronic Pain Stigma on Chronic Low Back Pain*

3rd Place

Katherine Effinger

9th Grade

Jefferson County International Baccalaureate

Project Title – *How Horses Affect Human Heart Rate*

Honorable Mention

Emma Wolf

10th Grade

Jefferson County International Baccalaureate

Project Title – *The Accuracy of the Human Memory*

BIOLOGY

1st Place

Eric Cheng

12th Grade

Alabama School of Fine Arts

Project Title – *The Effect of Inhibiting DNA-Protein Kinase and ADP-Ribose Polymerase on Head and Neck Squamous Cell Carcinoma Survivability*

2nd Place

Evalyn Ngamau

12th Grade

Alabama School of Fine Arts

Project Title – *Detection of Bacteriocin Activity of Streptococcus mutans on Oral Streptococci*

3rd Place

Abhishek Kamath

12th Grade

Hoover High School

Project Title – *Determining if Radioluminescent Particles Cause Damage to the Hippocampus*

Honorable Mention

Shehzan Maredia

12th Grade

Hoover High School

Project Title – *The Metabolomics Effects on Aging in Drosophila Species are Sex-Specific*

Honorable Mention

Sarah Avington

12th Grade

Alabama School of Fine Arts

Project Title – *Comparing Respiration Rates of Drosophila melanogaster with Varying Activity Levels*

Honorable Mention

Devin Washington

12th Grade

Holy Family Cristo Rey

Project Title – *Which Energy Drink is the Most Toxic*

CHEMISTRY

1st Place

Claire Jun

10th Grade

Hoover High School

Project Title – *Liposome Nanoparticle for the Treatment of Vascular Diseases*

2nd Place

Grace Springer

12th Grade

Alabama School of Fine Arts

Project Title – *Interactions of Caffeine with Anti-Cancer Medication Topotecan with NMR Spectroscopy*

3rd Place

Charity Davis & Naomi Ogunmakin

11th Grade

Holy Family Cristo Rey

Project Title – *True Colors*

Honorable Mention

Zya IdDeen

9th Grade

Holy Family Cristo Rey

Project Title – *Think Before You Drink*

Honorable Mention

Sha'Warren Webster

12th Grade

Holy Family Cristo Rey

Project Title – *Breaking Bad*

Honorable Mention

Angel Thomas

12th Grade

Holy Family Cristo Rey

Project Title – *How Does the Speed of Crystallization Affect the Size of Crystals*

ENERGY AND TRANSPORTATION

1st Place

Will Bradley, Kayla Donaldson & Coy Trammell

12th Grade

Hewitt Trussville High School

Project Title – *Heat Detecting Car Seat*

2nd Place

Abby Manscill

12th Grade

Hewitt Trussville High School

Project Title – *Innovated Crosswalk for Disabled Pedestrians*

3rd Place

Lucas Campbell, Luke Burford & Alex Litwin

12th Grade

Hewitt Trussville High School

Project Title – *Gravity Powered Generator*

Honorable Mention

Stephen Bush

12th Grade

Crossroads Christian

Project title – *Temperature Effects on Solar Generation*

Honorable Mention

Harshil Mehta

9th Grade

Indian Springs School

Project title – *Increasing the Distance of a Wireless Energy Transfer by Implementing Less Gauge of the Wire*

Honorable Mention

Brandon Kirkland, Creed Parker, & Will Tortorice

12th Grade

Hewitt Trussville High School

Project title – *Emergency Vehicle Alert System*

Honorable Mention

Noah Rigg, Ryan Payant & Austin Hicks

12th Grade

Hewitt Trussville High School

Project title – *Bike Detection Device*

ENGINEERING

1st Place

Catherine Kung

9th Grade

Indian Springs School

Project Title – *Creating a Pectin-Based Temperature-Sensitive Artificial Skin*

2nd Place

Aniket Pant

11th Grade

Jefferson County International Baccalaureate

Project Title – *Novel Applications of Machine Learning in Ultrafast Optics*

3rd Place

Eshita Yadav

12th Grade

Hoover High School

Project Title – *Formation of Gold Nanoparticles Using Plasma Treatment*

Honorable Mention

Nathan Guden & James Morris

12th Grade

Hewitt Trussville High School

Project Title – *Dynamic Awareness and Recognition Kit (DARK)*

Honorable Mention

Aaron Dykes, Christian Nichols & Cal Roberts

12th Grade

Hewitt Trussville High School

Project Title – *Mobile Video Stabilization System*

Honorable Mention

Chris Mungai

12th Grade

Alabama School of Fine Arts

Project Title – *Using Number of People to Control Speed of DC Ceiling Fan*

ENVIRONMENTAL AND EARTH SCIENCES

1st Place

Sid Singh

12th Grade

Alabama School of Fine Arts

Project Title – *Utilizing Native Hyper-Accumulators to Determine Efficient Methods for Heavy Metal Phytoremediation*

2nd Place

Abhinav Gullapalli

11th Grade

Hoover High School

Project Title – *Creating a Java Based Decision Model to Evaluate Air Pollution Particles Remediation with Trees*

3rd Place

Carol He, James Downs & Trisha Bheemanathini

10th Grade, 9th Grade & 9th Grade

Alabama School of Fine Arts9

Project Title – *The Effects of Nanosilver on Pond Organisms*

Honorable Mention

Olivia Honeycutt & Caroline Beisher

9th Grade

Indian Springs School

Project Title – *Fertilizer for the Future*

Honorable Mention

James Shi & Eliot Cornett

9th Grade

Alabama School of Fine Arts

Project Title – *The Effect of pH on the Growth Rate of C.vulgaris*

Honorable Mention

Stacy Ross

11th Grade

Pell City High School

Project Title – *Renewable Filtration through Fire Resistant Nanofibrous Membranes*

MATHEMATICS AND COMPUTER SCIENCES

1st Place

Carson McCombs & Jaden Arnold

12th Grade

Hewitt Trussville High School

Project Title – *Tabletop-Link*

2nd Place

Mike Jiang

11th Grade

Indian Springs School

Project Title – *Plant Classification Using Convolutional Neural Network*

3rd Place

Aiden Yoder

12th Grade

Alabama School of Fine Arts

Project Title – *Modeling and Simulating Environment for Traffic Flow Analysis*

Honorable Mention

Arrington Harper

12th Grade

Alabama School of Fine Arts

Project Title – *The Detection of Hate Speech Using Part-of-Speech Tagging*

MEDICINE AND HEALTH SCIENCES

1st Place

Reagan Shoop

12th Grade

Hewitt Trussville High School

Project Title – *Automatic Traumatic Injury and Concussion Alert System (ATICAS)*

2nd Place

Lourdes Rodriguez

11th Grade

Mountain Brook High School

Project Title – *Phenotypic and Genotypic Comparisons in RTT-Causing Genes*

3rd Place

Katherine Wilson

12th Grade

Alabama School of Fine Arts

Project Title – *Intra-Subject Variability and Nycthermeral Rhythms of Ocular Perfusion Pressure (OPP) as Characterized by 24-hour Telemetry in Nonhuman Primates (NHPs)*

Honorable Mention

Virginia Slaughter

9th Grade

Indian Springs School

Project Title – *Seeing Eye to Eye*

Honorable Mention

Yancey Williams

12th Grade

Alabama School of Fine Arts

Project Title – *Liver Transplant for Hepatocellular Carcinoma: An Analysis of Explant Pathology*

Honorable Mention

Jonathan Chestang

12th Grade

John Carroll Catholic High School

Project Title – *Development of a Patient-Derived Xenograft Model of Ameloblastoma*

PHYSICAL SCIENCES

1st Place

Eesha Banerjee

11th Grade

Alabama School of Fine Arts

Project Title – *Optical Characterization of Cr and Fe Doped ZnSe and ZnS Polycrystals for Mid-IR Lasing Applications*

2nd Place

Viraj Kacker & Akshat Yaparua

11th Grade & 10th Grade

Jefferson County International Baccalaurate

Project Title – *Non-Markovian Investigation of Entropy Production in an Isolated Quantum System*

3rd Place

Cameron Gallups

12th Grade

Hewitt Trussville High School

Project Title – *Movement Powered Battery Source for USB Devices*

CARSEF Category Winners

Junior Division

BEHAVIORAL AND SOCIAL SCIENCES

1st Place

Hala Mallah

7th Grade

Islamic Academy of Alabama

Project Title – *Thoughts on Caffeine*

2nd Place

Sophia Graham

7th Grade

Altamont School

Project Title – *Are You Smarter Than A 7th Grader?*

3rd Place

Elise Picard & Elizabeth Spradlin

8th Grade

Indian Springs School

Project Title – *Memory Hackers*

Honorable Mention

Obada Aishah

8th Grade

Islamic Academy of Alabama

Project Title – *Curiouser and Curiouser*

Honorable Mention

Olivia Jones, Grace Jemison & Symarah Tate

8th Grade

W.J. Christian

Project Title – *Reading Wars*

Honorable Mention

Liam Crenshaw

6th Grade

Altamont School

Project Title – *“Seeing is Believing?” The Impact of Sight on Taste*

BIOLOGY

1st Place

Raju Sudarsha

6th Grade

Altamont School

Project Title – *The Effect of Temperature Variation on Metamorphosis of Caterpillars*

2nd Place

Alexander Skowronski

6th Grade

Altamont School

Project Title – *Growth in the Desert*

3rd Place

Savannah Ashley

8th Grade

W.J. Christian

Project Title – *Good Vibez*

Honorable Mention

Farrah Mekdad

6th Grade

Islamic Academy of Alabama

Project Title – *Juicy Shirts*

CHEMISTRY

1st Place

Krishna Wilby

6th Grade

Altamont School

Project Title – *Water Fuel*

2nd Place

Rishab Samant

8th Grade

Pizitz Middle School

Project Title – *Choking Cancer: Evaluation Nutraceutical for the Prevention of Angiogenesis*

3rd Place

Victoria Campbell & Micah Daugherty

8th Grade

W.J. Christian

Project Title – *Glow Up*

Honorable Mention

Selma Alsabahi

6th Grade

Islamic Academy of Alabama

Project Title – *That's So Cheesy*

Honorable Mention

Jenna Qashou

6th Grade

Islamic Academy of Alabama

Project Title – *Shampoo to Dye For*

Honorable Mention

Aaliyah Daniels

8th Grade

W.J. Christian

Project Title – *Lay It Down*

ENERGY AND TRANSPORTATION

1st Place

Arjun Iyer, Vikram Iyer & Ben Shacka

7th Grade

Homewood Middle School

Project Title – *Rover Wheels: Which Works Best?*

2nd Place

Mizra Ali Baig

6th Grade

Islamic Academy of Alabama

Project Title – *Paper Patrol*

3rd Place

Aisha Diallo

7th Grade

Islamic Academy of Alabama

Project Title – *Solar Mobile*

Honorable Mention

David Borasino

6th Grade

Altamont School

Project Title – *Efficiency of Geothermal Power Plants*

Honorable Mention

Ibrahim Hamo

6th Grade

Islamic Academy of Alabama

Project Title – *Cooling Cars*

Honorable Mention

Nadeem Johnson

7th Grade

Islamic Academy of Alabama

Project Title – *Fun Fuels*

ENGINEERING

1st Place

Ahmad Kanpher

8th Grade

Islamic Academy of Alabama

Project Title – *Cement Relations with Eggs!*

2nd Place

Martin Vizzina

6th Grade

Hilltop Montessori School

Project Title – *Stick 'Em Up – The Great Utility Tape Test*

3rd Place

Sohana Caplash

6th Grade

Altamont School

Project Title – *Robot Sensor Maze*

ENVIRONMENTAL AND EARTH SCIENCES

1st Place

Rosa Sabel

8th Grade

Indian Springs School

Project Title – *Airborne Particulates at Indian Springs*

2nd Place

Frances Overton & Caleigh Moose

7th Grade

Altamont School

Project Title – *Different Roofing and its Effect on the Temperatures on Buildings*

3rd Place

Maggie Player & Mary Clare Ingram

7th Grade

Homewood Middle School

Project Title – *Get the “Scoop” on Single-Use Plastic*

Honorable Mention

Catherine Hinson

6th Grade

Hilltop Montessori School

Project Title – *What’s In My Water?*

Honorable Mention

Will Lisenby

7th Grade

Altamont School

Project Title – *Tardigrades as a Bioindicator of Air Quality*

Honorable Mention

Mason Colema

7th Grade

Altamont School

Project Title – *Effect of Fertilizer on Oedogonium Foveolatum: The Downfall of an Ecosystem*

MATHEMATICS AND COMPUTER SCIENCES

1st Place

Dalia Abu-Hamdeh

6th Grade

Islamic Academy of Alabama

Project Title – *Animation Speeds*

2nd Place

Rand Ashour

8th Grade

Islamic Academy of Alabama

Project Title – *Shake It Up*

3rd Place

Mohamed Elimam

6th Grade

Islamic Academy of Alabama

Project Title – *The Geometry of Soccer*

Honorable Mention

Maryam Khan, Marley Tarver & David Hunter

8th Grade

W.J. Christian

Project Title – *ViTRUE?vian*

Honorable Mention

Abdul Jalloh

7th Grade

Islamic Academy of Alabama

Project Title – *Hacking the Air Gap*

MEDICINE AND HEALTH SCIENCES

1st Place

Sophia Li & Jordan Posada

8th Grade

Hewitt Trussville Middle School

Project Title – *Are Fingerprints Inherited?*

2nd Place

Lucine Carsen & Caitlin Cornelius

7th Grade

Altamont School

Project Title – *A Family Affair: Genetic Differences in Family Groups*

3rd Place

Yusuf Zengul

7th Grade

Islamic Academy of Alabama

Project Title – *Fall of Antibiotics*

Honorable Mention

George Benson

6th Grade

Altamont School

Project Title – *Dissolution Rate and Resulting Speed of Effectiveness of Various Pain Relief Medications and Dosage Forms*

Honorable Mention

Braylon Chatman & Canaan Clay

8th Grade

Hewitt Trussville Middle School

Project Title – *Stay Shiny*

Honorable Mention

Izaldeen Alzyat & Mohamad Al-absi

7th Grade

Islamic Academy of Alabama

Project Title – *Consider Jojoba*

PHYSICAL SCIENCES

1st Place

Muhaned Mohamed

6th Grade

Islamic Academy of Alabama

Project Title – *No More Knots*

2nd Place

Janiah Rutledge, Erianne Caver & Jerrell Lott

8th Grade

W.J. Christian

Project Title – *Earn Your Wings*

3rd Place

Rana Maflahi

8th Grade

Islamic Academy of Alabama

Project Title – *Different Batteries*

Honorable Mention

Sa'De McNair

8th Grade

Ossie-Ware Mitchell Middle School

Project Title – *The Behavior of Temperature*

Honorable Mention

Braylon Bivens

8th Grade

W.J. Christian

Project Title – *How Does It Work and How Is It Measured?*