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
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
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 Arts
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
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
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
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 Yaparia
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
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*
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?