UAB-CORD CARSEF Winners
March 7, 2015

CARSEF Top Honors & Intel Winners

Quinn McCormick
11th Grade
Jefferson County International Baccalaureate
Project Title – Modifiers of Apis mellifera Flight Muscle Metabolism: A Field Study in a Working Apiary

Tyler Jackson & Austin Norwood
12th Grade
Hewitt-Trussville High School
Project Title – Increased Efficiency in Solar Energy for Developing Countries

Makenzie Plyman & Madison Plyman
12th Grade
Hewitt-Trussville High School
Project Title – The Removal of Arsenic (III) From Contaminated Drinking Water Using Iron Oxide Coated 3D Printed Beads

Maggie Knight
10th Grade
Alabama School of Fine Arts
Project Title – Correcting Ocean Acidification with Potassium Carbonate
CARSEF Category Winners
Senior Division

Behavioral & Social Sciences

1st Place
Sameera Grandhi
12th Grade
Alabama School of Fine Arts
Project Title – Increasing Interest and Understanding of Science Concepts through Lab Re-design

2nd Place
Zahab Aleezada
10th Grade
Alabama School of Fine Arts
Project Title – How the Internet Affects Teenagers Based on BMI

3rd Place
Alyssa Haynes
9th Grade
Pell City High School
Project Title – The Effectiveness of Art Therapy

Honorable Mention
Jacy Coker
9th Grade
Jefferson County International Baccalaureate
Project Title – The Effect of Time Perception on Different Environments

Honorable Mention
Jazzlyn Miller
10th Grade
Alabama School of Fine Arts
Project Title – Correlation Between Stress and Anxiety

Honorable Mention
Juan Cruz
12th Grade
Alabama School of Fine Arts
Project Title – Examining Sleep Disturbance and Experimental Pain Sensitivity in Chronic Low Back Pain Participants and Healthy Controls
Biology

1st Place
Quinn McCormick
11th Grade
Jefferson County International Baccalaureate
Project Title – *Modifiers of Apis mellifera Flight Muscle Metabolism: A Field Study in a Working Apiary*

2nd Place
Jasmin Revanna
12th Grade
Alabama School of Fine Arts
Project Title – *Determining the Role of a Ganglion Cell Class in the Retina with Thermal Imaging*

3rd Place
Lauren Tinsley & Ashlynn Arnold
12th Grade
Hewitt-Trussville High School
Project Title – *An Evaluation of the Effects of Vibrations on Bacteria Growth*

Honorable Mention
Ryan Stack & Matt DeHart
12th Grade
Hewitt-Trussville High School
Project Title – *Effect of Insulin Growth Factor-I on N98 Anchor Yeast*

Honorable Mention
Madison Sinak
11th Grade
Jefferson County International Baccalaureate
Project Title – *The Effect of Household Materials on Red Harvester Ants*

Honorable Mention
Ronnie Festok
11th Grade
Jefferson County International Baccalaureate
Project Title – *The Response of Hippodamia Convergens to a Light and Gravity Stimulus*
Chemistry

1st Place
Mihir Limdi
11th Grade
Altamont School
Project Title – Effect of Indomethacin and Thrombin on Platelet Bioenergetics

2nd Place
Cordarian Banks
12th Grade
Alabama School of Fine Arts
Project Title – Purification and Crystallization of a Specific CFTR Synthetic Antigen Binding Fragment (Syn Fab)

3rd Place
Makenzie & Madison Plyman
12th Grade
Hewitt-Trussville High School
Project Title – The Removal of Arsenic (III) from Contaminated Drinking Water Using Iron Oxide Coated 3D Printed Beads

Honorable Mention
Varsh Sridhar
10th Grade
Jefferson County International Baccalaureate
Project Title – The Electrochemical Determination of Potential Carcinogen, Bispherol A (BPA), in Polycarbonate Plastic and Receipt Paper

Honorable Mention
Gregory Ridgel Jr.
11th Grade
Jefferson County International Baccalaureate
Project Title – The Effectiveness of Various Proteases on Gelatin Digestion

Honorable Mention
Monica Pasala
12th Grade
Alabama School of Fine Arts
Project Title – Cloning, Expression, and Characterization of Recombinant Coronavirus Microdomains
Energy & Transportation

1st Place
Austin Norwood & Tyler Jackson
12th Grade
Hewitt-Trussville High School
Project Title – Increased Efficiency in Solar Energy for Developing Countries

2nd Place
Tyler Huang & Noel Dudeck
10th Grade
Alabama School of Fine Arts
Project Title – Power Generation in Microbial Fuel Cells

3rd Place
Andrew Smitherman
12th Grade
Alabama School of Fine Arts
Project Title – An Analysis of the Aerodynamic Efficiency of Wind Turbine Blade Designs

Honorable Mention
Samantha Sinak
10th Grade
Jefferson County International Baccalaureate
Project title – From Thermal to Electrical

Honorable Mention
Bela Patel
9th Grade
Indian Springs School
Project title – Fuel Cell Future

Honorable Mention
Taylor Elliott & Ellyn Sartin
12th Grade
Hewitt-Trussville High School
Project Title – Alternative Method of Transporting Loads of Women in Developing Countries
Engineering

1st Place
Priya Shah
12th Grade
Alabama School of Fine Arts
Project Title – Non-Invasive Monitoring of Inflammation in a Genetically-Modified, Tissue Engineered Vascular Model

2nd Place
Tiffany Salas-Lopez & Abby Lewis
12th Grade
Hewitt-Trussville High School
Project Title – Budget Assistance App for Grocery Shopping

3rd Place
Alexis Jordan & Jacob Spruiell
12th Grade
Hewitt-Trussville High School
Project Title – The Development of a Car Seat System Using Around UNO

Honorable Mention
Tameron Williams
10th Grade
Pell City High School
Project Title – Building a Better Safety Device

Honorable Mention
Natalia Duran
9th Grade
Jefferson County International Baccalaureate
Project Title – What is the Effect of Saltwater Batteries on the Conductivity of a LED Lights on a Life Jacket

Honorable Mention
Jason Strickland & Vince Corey
12th Grade
Hewitt Trussville High School
Project Title – Increased Detection of Search and Rescue Missions
Environmental & Earth Sciences

1st Place
Maggie Knight
10th Grade
Alabama School of Fine Arts
Project Title – Correcting Ocean Acidification with Potassium Carbonate

2nd Place
Briganna Abernathy
11th Grade
Jefferson County International Baccalaureate
Project Title – The Various Effects of Man Made Water Filters Utilizing Filters Using Fabric and Chemical Aids on Properties of Water

3rd Place
Rowan El-Qishawi & Rozan El-Qishawi
11th Grade & 9th Grade
Hoover High School
Project Title – Coal Energy or Pure Water...but Maybe Both, Alabama to Choose

Honorable Mention
Ben Mostafavi
11th Grade
Hewitt-Trussville High School
Project Title – Biodiversity Along a Stream Gradient

Honorable Mention
Laura Beth Curlee & Ashlee Burns
12th Grade
Hewitt-Trussville High School
Project Title – The Development of a Qualitative Indicator for Vibrio Bacteria in Drinking Water

Honorable Mention
Dansby Benedict
12th Grade
Alabama School of Fine Arts
Project Title – Efficacy of Microencapsulation in Oil Degradation
1st Place
Joshua Walker
12th Grade
Hewitt-Trussville High School
Project Title – Modeling a New Drug Delivery System in Silico

2nd Place
Noah Phillips
12th Grade
Alabama School of Fine Arts
Project Title – Factors Correlating to Obesity in Alabama Counties

3rd Place
Nath Tumlin
12th Grade
Alabama School of Fine Arts
Project Title – The Flying Pi Eye

Honorable Mention
Gavin Young
10th Grade
Indian Springs School
Project Title – Cryptanalysis of a Vigenere Cipher

Honorable Mention
Sruti Josyula
12th Grade
Alabama School of Fine Arts
Project Title – Crowdsourcing Diabetes Application

Honorable Mention
Wesley Biddie
12th Grade
Evangel Christian School
Project Title – Building a Computerized and Writing Java Code for Solving Physics Equations
1st Place
Katie Delaney & Courtney Bradford
12th Grade
Hewitt-Trussville High School
Project Title – A Comparison of Foot Stride, Stride Rate, and Knee Angle at Foot Strike Between High-Performing and Low-Performing Females and Then Again Between High-Performing and Low-Performing Males of the High School Cross Country Team

2nd Place
Arjun Guru & Amy Zhao
11th Grade
Altamont School
Project Title – Gene Expression in Primary and Metastatic Kidney Cancer to Discover Drivers of Metastasis and Targets for Drug Development

3rd Place
Arjun Lakhanpal
10th Grade
Altamont School
Project Title – The Inhibition of the WNT-B Catenin Signaling Pathway by the Drug Niclosamide and its Analogs: A Therapeutic Agent for Triple Negative Breast Cancer

Honorable Mention
Krishna Shah
12th Grade
Alabama School of Fine Arts
Project Title – Influence of the Cardiomyocyte Circadian Clock on Diabetes-Induced Alterations in Cardiac UCP3 Expression

Honorable Mention
Kenneth Jiao
9th Grade
Indian Springs School
Project Title – Examine Abnormal Cardiomyocyte Differentiation in CHARGE Syndrome Using Mouse Embryonic Stem Cells

Honorable Mention
Kaylie Adcox
9th Grade
Pell City High School
Project Title – Age of Onset of Common Rett Syndrome Symptoms
Physical Sciences

1st Place
Michael Elridge
12th Grade
Hewitt-Trussville High School
Project Title – Examinations of Visible Light Intensity Given Off by Various Cathode Ray Tubes with Different Anodes

2nd Place
Michael McGinnis
11th Grade
Jefferson County International Baccalaureate
Project Title – Input Power Dependency of White Light Generation

3rd Place
Cayla Carpenter
10th Grade
Pell City High School
Project Title – Are You Out of Tune?

Honorable Mention
Elijah Rose
10th Grade
Jefferson County International Baccalaureate
Project Title – Temperature Effects on the Magnetism Process

Honorable Mention
Mohammad Hamo
9th Grade
Indian Springs School
Project Title – X-Ray Machine

Honorable Mention
William Levant IV
9th Grade
Jefferson County International Baccalaureate
Project Title – What is the Effect of Environmental Temperatures on the Strength of Permanent Neo Magnets?
# CARSEF Category Winners

## Junior Division

### Behavioral & Social Sciences

<table>
<thead>
<tr>
<th>Place</th>
<th>Name</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Anna-Julia Kutsch</td>
<td>8th</td>
<td>Altamont School</td>
<td>The Confidence Issue</td>
</tr>
<tr>
<td>2nd</td>
<td>Aliyah Abasy</td>
<td>8th</td>
<td>Islamic Academy of Alabama</td>
<td>What’s So Funny?</td>
</tr>
<tr>
<td>3rd</td>
<td>Yasmeen Almatubsbi</td>
<td>6th</td>
<td>Islamic Academy of Alabama</td>
<td>How Fast Are You?</td>
</tr>
<tr>
<td>HM</td>
<td>McLean Bell</td>
<td>8th</td>
<td>Altamont School</td>
<td>E-readers, Helpful or Hurtful</td>
</tr>
<tr>
<td>HM</td>
<td>Alexandra Pritchard</td>
<td>8th</td>
<td>Altamont School</td>
<td>Gender Based Weight Preferences</td>
</tr>
<tr>
<td>HM</td>
<td>Jana Graves</td>
<td>7th</td>
<td>Zora Ellis Junior High School</td>
<td>Instrumental Intelligence</td>
</tr>
</tbody>
</table>
**Biology**

**1st Place**
Jack Markert  
8th Grade  
Indian Springs School  
Project Title – *Smart Phone App and Jellyfish*

**2nd Place**
Krishna Josyula  
8th Grade  
Indian Springs School  
Project Title – *Bacteria Around Us*

**3rd Place**
Swapnil Patel  
8th Grade  
Indian Springs School  
Project Title – *Germ Invasion*

**Honorable Mention**
Bentley Walker & Emma Faircloth  
7th Grade  
Nicholas-Lawson Middle School  
Project Title – *How Does Aspirin Water Affect Pansy Growth?*

**Honorable Mention**
Ella Buckingham  
7th Grade  
Saint Rose Academy  
Project Title – *The Science of Clean Hands*

**Honorable Mention**
Shurooq Elbahrawi  
6th Grade  
Islamic Academy of Alabama  
Project Title – *Preservatives to the Rescue!*
Chemistry

1st Place
Abigail Lowe
8th Grade
Altamont School
Project Title – Which is the Best Way to Detect Forgery?

2nd Place
Alexine Treist
8th Grade
Altamont School
Project Title – Homemade or Industrial Detergent? Which one is Better?

3rd Place
Shawn Cross
8th Grade
Huffman Middle School
Project Title – Do Disinfectants Really Work?

Honorable Mention
Katherine Wilson
8th Grade
Altamont School
Project Title – The Affect of Temperature on Acidity Level

Honorable Mention
Kelvin Ray Jr.
7th Grade
Huffman Middle School
Project Title – Oh My Stomach!

Honorable Mention
Timothy McGrady
7th Grade
Nicholas-Lawson Middle School
Project Title – Growing Sugar Crystals
Energy and Transportation

1st Place
Mohammad Ashour
8th Grade
Islamic Academy of Alabama
Project Title – Biodiesel Fuel

2nd Place
Maya Guru
8th Grade
Altamont School
Project Title – The Fuel Cycle of the Future

3rd Place
Ryan Wozniak
7th Grade
Our Lady of the Valley
Project Title – Wings a Flyin’

Honorable Mention
Jacob Steele, Hall Welborn, Peter Anella
6th Grade
Our Lady of the Valley
Project Title – Up, Up and Away

Honorable Mention
Nora El Mubaid
7th Grade
Islamic Academy of Alabama
Project Title – Does an Incandescent or Fluorescent Bulb Heat Faster?
Engineering

1st Place
Wesley Yeatman & Steve Kagia
5th Grade
Our Lady of the Valley
Project Title – Which Bridge Design is Stronger?

2nd Place
Madeleine Bond
7th Grade
Agape Academy
Project Title – Portable Solar Charging Station for Developing Countries

3rd Place
Mary Elizabeth Madden
5th Grade
Our Lady of the Valley
Project Title – Save the Egg

Honorable Mention
Jessica Heberlein
5th Grade
Our Lady of the Valley
Project Title – Zoom Coasters

Honorable Mention
Joshua Jayroe
8th Grade
Duran North Junior High
Project Title – Trusted Everywhere?

Honorable Mention
Ahmad Hakim
7th Grade
Islamic Academy of Alabama
Project Title – Sound Detection Circuit
Environmental and Earth Sciences

1st Place
Maya Cassady
8th Grade
Indian Springs School
Project Title – Surface Ages of Planetary Bodies

2nd Place
Mahmoud El-Qishawi
8th Grade
Bumpus Middle School
Project Title – Molluscs!...Will You Save Alabama Drinking Water from Coal Contamination!

3rd Place
Wamda Eltoum
8th Grade
Islamic Academy of Alabama
Project Title – Cinnamon as a Rooting Hormone: Extracting the Active Ingredient

Honorable Mention
Colin Mobley
7th Grade
Islamic Academy of Alabama
Project Title – The Effect of Water Sources on Plants

Honorable Mention
Catalina Font de Mora
8th Grade
Altamont School
Project Title – The Potential Effects of Non-native Aquatic Plants on the Amount of Dissolved Oxygen in Lake Guntersville

Honorable Mention
Kaitlyn Shields
5th Grade
Our Lady of the Valley
Project Title – Who Needs Dirt
1st Place
Amrita Lakhanpal
8th Grade
Altamont School
Project Title – Help! I Got Hacked! How Fast Can Your Password Be Cracked?

2nd Place
John Rose
5th Grade
Our Lady of the Valley
Project Title – Which Color Makes You A Winner?

3rd Place
Omar Qashou
7th Grade
Islamic Academy of Alabama
Project Title – Can Video Games Make You Smarter?

Honorable Mention
Jordan Fluker
8th Grade
Duran North Junior High
Project Title – What Materials Can Weaken a Wi-Fi Signal?
Medicine & Health Sciences

1st Place
Seema Mallah
8th Grade
Islamic Academy of Alabama
Project Title – The Rapid Heartbeat

2nd Place
Jackson Shields
8th Grade
Our Lady of the Valley
Project Title – Got You Covered

3rd Place
Ashley Bowen
8th Grade
Our Lady of Fatima
Project Title – I’ve Got the Beat

Honorable Mention
Waleed Abdelqader
8th Grade
Islamic Academy of Alabama
Project Title – Heartburn Problems?

Honorable Mention
Elamin Elimam
6th Grade
Islamic Academy of Alabama
Project Title – Preservatives ad Health

Honorable Mention
Ernest Samuel
8th Grade
Riverchase Middle School
Project Title – How Does Attention Deficit Hyperactivity Disorder Medication Affect an Individual
Physical Sciences

1st Place
Will Ashley
7th Grade
Cornerstone Christian Academy
Project Title – No Strings Attached

2nd Place
Serj Mee, Nathan Besch & Matthew Hosmer
5th Grade
Our Lady of the Valley
Project Title – May The Force Be With You

3rd Place
Lawson Seay
8th Grade
Duran North Junior High
Project Title – Angry Balls

Honorable Mention
Talal Abdel Aal
6th Grade
Islamic Academy of Alabama
Project Title – The Effect of Temperature on the Amount of Carbon Dioxide in Carbonated Beverages

Honorable Mention
Alaa Karassi
8th Grade
Islamic Academy of Alabama
Project Title – Electrophoresis

Honorable Mention
Thomas Wilcox
8th Grade
Zora Ellis Junior High School
Project Title – Point Me Towards the Sugar