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# 2019 Alabama Science and Engineering Fair

## Category Award Winners

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Category

Place

Proj. No.

Name

School

Project Title

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### Junior Division

### Behavioral & Social Sciences

1	BE	6	<b>Mallah, Hala</b> Thoughts On Caffeine	
				Islamic Academy of Alabama
2	BE	3	<b>Graham, Sophia</b> Are You Smarter Than A 7th Grader?	
				The Altamont School - *
3	BE	11	<b>Parson, Hudson</b> Do You See What "Eye See"?	
				Holtville Middle school
3	BE	13	<b>Thorley, Judd</b> Music Memorization	
				Coppinville Jr High School - *
4	BE	7	<b>McIntosh, Andrew</b> The Brain-Body Connection: Can Exercise Really Make Our Brains Work Better?	
				Oakwood Adventist Academy
4	BE	10	<b>Normand, Leland</b> Which Driving Distraction Leads To The Greatest Number Of Crashes	
				Clark Shaw Magnet Middle School
HM	BE	1	<b>Brister, Beau</b> Spirolyphic Art: Revealing Images Through Color & Distance	
				Mill Creek Elementary School

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**Category**

<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
HM BE	2	<b>Fananapazir, Taleh</b> To Know Or Not To Know... Can You Focus?	Williams AGT Middle School
HM BE	4	<b>Gunn, Mary Katherine</b> ACT Scores: Do They Matter?	Summerdale School
HM BE	5	<b>Hanlon, Anna</b> Attitudes	Summerdale School
HM BE	8	<b>Mitchell, Mindy</b> I Have A Question	Holy Spirit High School
HM BE	9	<b>Nash, Katelyn</b> Always Be My Baby	Holy Spirit Catholic High School Elise Picard
HM BE	12	<b>Spradlin, Elizabeth</b> Memory Hackers	Indian Springs School
HM BE	14	<b>Yeilding, Margaret</b> The Effects Of Video Gaming On The Body	Phenix City Intermediate School - *

## **Botany & Zoology**

1 BZ	23	<b>Buck Jr., Brandon</b> Radiant Radish Seeds	Abbeville Elementary/Middle School
2 BZ	24	<b>Burckhartt, Madison</b> Saving Lettuce	Clark Shaw Magnet Middle School

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<u>Project Title</u>			
3 BZ	21	<b>Beranek, Harper</b> Determining The Accuracy Of Human Remains Dogs Through The Depth And Decomposition Of Human Tissue	Williams AGT Middle School
3 BZ	33	<b>Sudarshan, Raju</b> The Effect Of Temperature Variation On The Metamorphosis Of Caterpillars	The Altamont School
3 BZ	35	<b>Wesson, Colt</b> Can Dogs Have A Dominant Paw?	Holtville Middle School
4 BZ	20	<b>Albea, Alexandra</b> Simple Bowls To Reach Your Goals	Holy Spirit Catholic High School
4 BZ	27	<b>Gieger, Sarah</b> How Do Protein Sequences Compare in Common Ancestors?	Clark Shaw Magnet Middle School
4 BZ	31	<b>Skowronski, Alexander</b> Growing In The Desert	The Altamont School - *
4 BZ	32	<b>Stephens, Jon</b> Don't Mow That Grass	Clark Shaw Magnet Middle School
HM BZ	22	<b>Brown, Riley</b> A Kaleidoseed Of Color	Phillips Preparatory Middle School
HM BZ	25	<b>Cox, Liberty</b> Smoke And Bees	Phenix City Intermediate School
HM BZ	26	<b>Davis, Pearl</b> Bean pHarming	Holy Spirit High School - *

<u>Category</u>			
<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
<u>Project Title</u>			
HM BZ	28	<b>Guillotte, Samantha</b> Putting Plants To The Test	Clark Shaw Magnet Middle School
HM BZ	29	<b>Mann, Aidan</b> Proteam 4 More	Sterling Bell
HM BZ	30	<b>Murphy, Brenna</b> Does Pre-treatment Of Seeds Impact Germination	Williams AGT Middle School / Academy of Gif
			St. John the Baptist Catholic School

## Chemistry

1 CH	60	<b>Samant, Rishab</b> Choking Cancer: Evaluating Nutraceuticals For The Prevention Of Angiogenesis	Pizitz Middle School
2 CH	50	<b>Babu, Shivani</b> Effect Of Temperature On Alum Crystal Formation	Auburn Junior High School
3 CH	58	<b>Possel, James</b> Water We Doing	St. John the Baptist Catholic School
3 CH	63	<b>Vanterpool, Jasmyn</b> Can Allium Inhibit Streptococcus And Staphylococcus Hemolytic Enzymes/Toxins? (Part 2)	Oakwood Adventist Academy
3 CH	64	<b>Wilby, Krishna</b> Water Fuel	The Altamont School
4 CH	53	<b>Day, Savannah</b> The Effects Of Saponification	Clark Shaw Magnet Middle School

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<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
4 CH	54	<b>Hartmann, Haleigh</b> Bubble, Fizz, Gone	
			Causey Middle School
4 CH	55	<b>Lampon, Evelyn</b> Dr. Osmosis - The Naked Egg	
			Harrand Creek Elementary School
HM CH	51	<b>Caldwell, Joanna</b> Which Environment Will Form A Crystal Faster	
			Oakwood Adventist Academy Micah Daugherty
HM CH	52	<b>Campbell, Victoria</b> Glow Up	
			William James Christian School
HM CH	56	<b>Middleton, Dillon</b> Which Solution Will Dissolve The Color Coating On Skittles Candy The Fastest?	
			Oakwood Adventist Academy
HM CH	57	<b>Omondi, Phillip</b> The Sweeter Reactions	
			Academy for Science and Foreign Language
HM CH	59	<b>Roberson, Vivvyia</b> Heat On Enzymes	
			Clark Shaw Magnet Middle School - *
HM CH	61	<b>Spears, Zachary</b> Does Fabric Softener Affect The Flammability Of Fabrics?	
			Choctaw County High School
HM CH	62	<b>Thornton, Madison</b> Got Flames?	
			Greenville Middle School Gavin Gentry
HM CH	65	<b>Wilson, Shannon</b> What Types Of Salt Have What Amounts Of Ammonia	
			Coppinville Jr High School - *

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**Category****Place****Proj. No.****Name****School****Project Title**

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**Engineering**

1	N	148	<b>Mahjouri, Naeim</b> Eddy Current Braking System	Auburn Junior High School
2	N	149	<b>McQuillen, Katherine</b> Turbines Generating Electricity	Clark Shaw Magnet Middle School
3	N	145	<b>Fernandez, Chloe</b> More Panes, Less Heat	Phillips Preparatory Middle School - *
3	N	151	<b>Minnon, Luke</b> Project A.R.C.S. (Algorithmic Robotic Cube Solver)	Libertas Classical Community
3	N	155	<b>Tillman, James</b> Launch Time	Clark Shaw Magnet Middle School
4	N	140	<b>Alexander, Matthew</b> Speedy Science With A Magnetic Train	Phillips Preparatory Middle School
4	N	142	<b>Bowman, Hunter</b> Shape or Weight?	Hampton Cove Middle School
4	N	143	<b>Brijesh, Milind</b> Driving Safety	Discovery Middle School
4	N	152	<b>Rathburn, Bradley</b> Battle Of The Wood Treatments	Coppinville Jr High School - *

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<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
4 N	154	<b>Schaetzle, Noah</b> The Test Of Accessories	
			Holy Spirit Tuscaloosa
HM N	141	<b>Bagwell, Benjamin</b> May The Best Fin Win!	
			Columbia Elementary School
HM N	144	<b>Dyer, Alexander</b> Air Cannons: Which Design Makes The Hardest Impact?	
			Horizon Elementary School
HM N	146	<b>Kannan, Santhosh</b> Wrap Battle	
			Clark Shaw Magnet Middle School
HM N	147	<b>Livingston, Nick</b> Batteries vs Name Brand Batteries	
			Holy Spirit Catholic High School - *
HM N	150	<b>Meier, Evan</b> Cotton Candy Storage	
			Horizon Elementary School
HM N	153	<b>Rutledge, Janiah</b> Earn Your Wings	
			Erienne Covers an
			William James Christian School - *

## Environmental

1 E	80	<b>Hill, Conner</b> ALL ABOARD! Does Weather Affect MAGLEV Trains?	
			Hampton Cove Middle School
1 E	92	<b>Renzelman, Abigail</b> Worming Our Way to Less Wasteful Future (Styrofoam Composting)	
			Columbia Elementary School

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<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
3 E	70	<b>Allison, Mark</b> Worming Away Waste	Horizon Elementary School
3 E	71	<b>Batts, Nadia</b> Water For Life	Beverlye Magnet School
3 E	90	<b>Player, Maggie</b> Get The "Scoop" On Single-Use Plastic	<b>Mary Clare Ingram</b>
4 E	74	<b>Clinton, Ta'Janae</b> Educated Learning Efficient, Cunning, Technical, Robot Assistant (electra)	Homewood Middle School
4 E	83	<b>Kanpher, Ahmad</b> Cement Relations With Eggs	Admiral Moorer Middle School
4 E	85	<b>Madrid II, Gabriel</b> Which Method Of Water Purification Is More Efficient?	Islamic Academy of Alabama
4 E	91	<b>Prabhakar, Ashwin</b> Multifunctional Biodegradable Polymers For Environmental Applications	Oakwood Adventist Academy
HM E	72	<b>Burks, Jason</b> Go With the Flow	Discovery Middle School
HM E	75	<b>Daffin, Salihah</b> Elastic Plastic	Clark Shaw Magnet Middle School - *
HM E	76	<b>Darrough, Sophia</b> Coat Your Boat	Clark Shaw Magnet Middle School
			Clark Shaw Magnet Middle School

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<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
		<u>Project Title</u>	
HM E	77	Diallo, Aisha Solar Mobile	
			Islamic Academy of Alabama
HM E	78	Emani, Abhishek Nanosilver Vs. Pond Life: Who Will Win?	
			Liberty Middle School
HM E	79	Fedoseyev, Alexander Thermal Conductivity Of Metals	
			Horizon Elementary School
HM E	81	Iyer, Arjun Rover Wheels: Which Works Best?	Vikram Iyer and Be
			Homewood Middle School - *
HM E	82	Jennings, Jordan The Effectiveness Of Raw Bamboo As A Bio-Insulation Replacement For Fiber And Cellulose Insulation And Sustainable Green Building Design	
			Key Destiny Academy
HM E	84	Karabin, AnnaKay Temperature On A Solar Cell	
			Beverlye Magnet School
HM E	86	Morris, BreAnn Filtering Creek Water	
			Holtville Middle School
HM E	87	Morvant, Ryan Weather: Man vs Machine	
			Clark Shaw Magnet Middle School - *
HM E	88	Nameniuk, Samuel Spinning Toward Efficiency	
			Clark Shaw Magnet Middle School
HM E	89	Nelson, Jacob Erosion	
			Clark-Shaw Magnet Middle School

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<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
<u>Project Title</u>			
HM E	93	<b>Sabel, Rosa</b> Examining The Particulate Composition Of The Indian Springs Community	Indian Springs School
HM E	94	<b>Siao, William</b> Hone Defense Drone	St. John the Baptist Catholic School
HM E	95	<b>Thole, Clayton</b> Blocking The Signal, Part 2	Veritas Classical School
HM E	96	<b>Vizzina, Martin</b> Stick 'Em Up: The Great Utility Tape Test	Hilltop Montessori School
HM E	97	<b>Wingate, Anna</b> Grey Water	Admiral Moorer Middle School - *

## Math & Computers

1 X	176	<b>Murphree, Connor</b> KEYS TO WISDOM: Do Passwords Get Better Or Worse With Age?	Columbia Elementary School
2 X	174	<b>Elimam, Mohamed</b> The Geometry Of Soccer	Islamic Academy of Alabama
3 X	175	<b>Halbesleben, Alexander</b> Is It Random	Holy Spirit High School
4 X	177	<b>O'Steen, Cullin</b> Radiation	Jack Hacker and Wacochee Elementary School

<u>Category</u>	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
			<u>Project Title</u>	
HM X		170	<b>Abu-Hamdeh, Dalia</b> Animation Speeds	
				Islamic Academy of Alabama
HM X		171	<b>Ashour, Rand</b> Shake It Up	
				Islamic Academy of Alabama
HM X		172	<b>Balaji, Madhushalini</b> Prediction And Analysis Of Heart Diseases Using Azure Machine Learning	
				Liberty Middle School
HM X		173	<b>Cplash, Sohana</b> Robot Sensor Maze	
				The Altamont School
HM X		178	<b>Owens, Kyra</b> WiFi Blockers	
				Dunbar Magnet School
HM X		179	<b>Senkbeil, Jonas</b> Who Doesn't Want Reliable Internet?	
				Holy Spirit Catholic High School

## Medicine & Health Sciences

1 ME		120	<b>Sides, Courtney</b> Stretches Of Strength	
				Eclectic Middle School
2 ME		122	<b>Sunil, Shreya</b> Dealing With Diabetes: The Complexities Involved In Developing An Artificial Pancreas	
				Liberty Middle School
3 ME		111	<b>Carsen, Lucine</b> A Family Affair: Genetic Differences In Family Groups	<b>Caitlin Cornelius</b>
				The Altamont School

<u>Category</u>			
<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
<u>Project Title</u>			
3 ME	115	logan, HALLIE LOTION UP	Hampton Cove Middle School
3 ME	119	Sharma, Eashan Tums To The Rescue	Phillips Preparatory Middle School
HM ME	110	Ashley, Savannah Good Vibez	William James Christian School Caleb Densford
HM ME	112	Coon, Emory Eggsperiment	Heritage Elementary
HM ME	113	Ewart, Trent How Do Video Games Affect Your Heart Rate	Holy Spirit Catholic High School
HM ME	114	Johnson, Haigler Let Me Charge Your Cell Phone	Hayneville Middle School
HM ME	116	Morton, Zamorah Hot Pockets!	Phillips Preparatory Middle School Sophia Li
HM ME	117	Posada, Jordan Are Fingerprints Inherited?	Hewitt Trussville Middle School
HM ME	118	Scott, Leah Choking Up	Clark-Shaw School of Math and Science
HM ME	121	Smith, Ava Who Is Dirtiest	Harrand Creek Elementary School

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<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
HM ME	123	<b>Velaski, Amelia</b> There's Yeast In My Sugar!!	Clark Shaw Magnet Middle School - *
HM ME	125	<b>Zengul, Yusuf</b> Fall Of Antibiotics	Islamic Academy of Alabama

**Physical Science**

1 Z	205	<b>Peel, Ethan</b> Seeing The Unseen	Beverlye Magnet School
2 Z	199	<b>Jennings, Makaila</b> How Star Luminosity Impacts The Identification Of Exoplanets Using Transient Photometry	Key Destiny Academy
3 Z	195	<b>Cress, Anna</b> Fiber Optic Communication	Libertas Classical Community
4 Z	192	<b>Bao, Will</b> The Draining Water	Drake Middle School
4 Z	204	<b>Mysore, Urvi</b> Can You Hear Me Now?	Liberty Middle School
HM Z	190	<b>Baig, Mirza</b> Paper Patrol	Islamic Academy Of Alabama
HM Z	191	<b>Baker, Abigail</b> Melt The Rainbow	Mill Creek Elementary School

<u>Category</u>	<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
			<u>Project Title</u>	
HM Z		193	<b>Blersch, Emma</b> The Effect Of Land Use On Star Visibility	Auburn Junior High School
HM Z		194	<b>Brettel, Braxton</b> A Shocking Experience	Clark Shaw Magnet Middle School - *
HM Z		196	<b>Dublin, Bruoklyn</b> "WOW" It's Hot In Here!	Oakwood Adventist Academy
HM Z		197	<b>Faircloth, Alyssa</b> Goin Yard	Holy Spirit High School
HM Z		198	<b>Hamilton, Alexis</b> On Your Mark, Get Set, Blow!	Horizon Elementary School
HM Z		200	<b>Johnson, Joshua</b> How To Turn A Raw Egg Into A Bouncy Egg	Oakwood Adventist Academy
HM Z		201	<b>Maflahi, Rana</b> Different Batteries	Islamic Academy of Alabama
HM Z		202	<b>Mohamed, Muhaned</b> No More Knots	Islamic Academy of Alabama
HM Z		203	<b>Myers, Campbell</b> You've Been Served	Phillips Preparatory Middle School
HM Z		206	<b>Phillips, Arian</b> Burning Tree Nuts	Williams AGT Middle School

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**Category****Place****Proj. No.****Name****School****Project Title**

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HM Z

207

**Rodriguez, Paul**

Does Big Name Equal Big Gain?

Holy Spirit Catholic High School

HM Z

208

**Waddy, Thomas**

Will It Drop

**David Best and S**

Coppinville Jr High School - \*

HM Z

209

**West, Graham**

Cran You Beet Red 40?

Phillips Preparatory Middle School

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**Category****Place****Proj. No.****Name****School****Project Title**

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**Senior Division  
Animal Science**

1	AS	234	<b>Kauffman, Maxwell</b> The Effects Of Nicotine On Tetrahymena And Euglena: Motility And Response Differences Among Ciliated And Flagelated Protozoans	<b>Banks Stamp</b> Central High School
2	AS	235	<b>King, Charity</b> Apple Snail Invasion	
3	AS	230	<b>Barbaree, Brooks</b> The Catch	<b>Murphy High School</b> <b>Hart Hughes</b>
3	AS	231	<b>Effinger, Katherine</b> Horses and Heart Rate	Central Freshman Academy
3	AS	233	<b>Hare, Lexie</b> Canine Cognition	Jefferson County International Baccalaureate
HM	AS	232	<b>Farrish, Eva</b> Put Your Best Paw Forward	St. John Paul II Catholic High School
				Holy Spirit Catholic High School

**Behavioral & Social Sciences**

1	BE	250	<b>Carnes, Sommer</b> Investigation Of Sense Association	
2	BE	256	<b>Thompson, Carley</b> Do You See What I See?	Jefferson County International Baccalaureate
				Holy Spirit Catholic High School

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**Category**

<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
3 BE	253	<b>Malone, Katherine</b> Effect Of Chronic Pain Stigma On Chronic Low Back Pain	
			Alabama School of Fine Arts
4 BE	255	<b>Schelte, Alexis</b> A Comparison Of The Goals, Traits, And Mental Health Of Military Children And Civilians	
			Central High School
HM BE	251	<b>Cole, Mackenzie</b> How Does Age Affect Eyewitness Accounts?	
			Shoals Christian School
HM BE	252	<b>Hamm, Ryleigh</b> Which Way Is Up?	
			Wetumpka High School
HM BE	254	<b>Owens, Grace</b> The Effects Of Texting On Reaction Times	
			Shoals Christian School

## Biochemistry

1 BI	300	<b>Bobba, Sai Sumedha</b> Development Of A Method Towards The Metabolic Monitoring Of TCA Cycle Compounds Using NMR	
			James Clemens High School
2 BI	301	<b>Lee, Yewon</b> Optimizing Bone Marrow Cryopreservation For Primitive Hematopoietic Stem Cell Compartment Studies Using Flow Cytometry Analysis	<b>Dongwon Lee</b>
			James Clemens High School
3 BI	304	<b>Sridhar, Nikitha</b> Pharmacokinetic Modeling Of Invitro Diffusion Rates For Antiviral Acyclovi	
			Auburn High School
4 BI	305	<b>Vanterpool, Jayden</b> Can Nanotechnology Be A Better Method Of Cancer Therapy?	
			Oakwood Adventist Academy

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<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
HM BI	302	<b>Phalo, Ta’Niyah</b> Painting With Nature	
			Murphy High School
HM BI	303	<b>Singh, Sid</b> Utilizing Native Hyper-Accumulators To Determine Efficient Methods For Heavy Metal Phytoremediation	
			Alabama School of Fine Arts - *
<b>Biomedical &amp; Health Sciences / Translational Medical Science</b>			
1 BHTM	284	<b>Mehta, Raj</b> The Effect Of Different Dilutions Of Pomegranate Juice, Pineapple Juice, Orange Juice, And Coconut Milk On The Growth Of HT29 And OVCAR8 Cancer Cell Lines	
			Davidson High School
2 BHTM	288	<b>Wilson, Katherine</b> Intra-Subject Variability And Nycthemeral Rhythms Of Ocular Perfusion Pressure (OPP) As Characterized By 24-Hour Telemetry In Nonhuman Primates (NHPs)	
			Alabama School of Fine Arts
3 BHTM	285	<b>Pyles, Avery</b> Eye-Phone: A Study Of How Cell Phones Affect Peripheral Vision	
			Wetumpka High School
4 BHTM	281	<b>Clark, Garrison</b> Recipe For Success: Creatine Monohydrate	
			Wetumpka High School
HM BHTM	280	<b>Acupan, Lauren Grace</b> Think Fast (Does Exercise Affect Reaction Time?)	
			St. John Paul II Catholic High School
HM BHTM	282	<b>Ewart, Kelsey</b> Sweet! How Soda Affects Your Blood Sugar	
			Holy Spirit Catholic High School
HM BHTM	283	<b>Hare, Dawson</b> Pain, Pain Go Away!	
			South Choctaw Academy

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- HM BHTM 286 **Rodriguez, Lourdes**  
Phenotypic And Genotypic Comparisons Of Rett Syndrome-Causing Genes: Clinical Observational StudOf Epilepsy In Rett Syndrome  
Mountain Brook High School
- HM BHTM 287 **Sanders, Veronica**  
The Effectiveness Of Kitchen Disinfectants  
Central High School

## Biomedical Engineering / Computational Biology and Bioinformatics

- 1 BECB 270 **Shoop, Reagan**  
Automatic Traumatic Injury and Concussion Alert System (ATICAS)  
Hewitt-Trussville High School

## Cellular & Molecular Biology / Microbiology

- 1 CBMI 325 **Siggers, Vanessa**  
Investigating The Bactericidal And Anti-Biofilm Effects Of Naringenin On Enterobacter cloacae  
Murphy High School
- 2 CBMI 321 **Ejantkar, Suma**  
Finding Bacteriophages To Fight Against Ice-Nucleating Bacteria  
Jiho Lee  
Auburn High School
- 3 CBMI 320 **Cheng, Eric**  
The Effect Of Inhibition DNA-Protein Kinase And ADP Ribose Polymerase On Head And Neck Squamous Cell Carcinoma Survivability  
Alabama School of Fine Arts
- 3 CBMI 324 **Ngamau, Evalynn**  
The Detection Of Bacteriocin Activity Of Streptococcus Mutans On Oral Streptococci  
Alabama School of Fine Arts
- 4 CBMI 322 **Mathews, Rebecca**  
Zap that Zit  
St. John Paul II Catholic High School

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4 CBMI 323 **Mitchell, Camille**  
Let's Talk About DNA! **Krystal Britt**

Northview High School

## Chemistry

1 CH 340 **Brazille, Kameron**  
Burn, Baby! Burn!

St. John Paul II Catholic High School

2 CH 342 **Davis, Charity**  
True Colors

**Naomi Ogunmakin**

Holy Family Cristo Rey Catholic High

3 CH 343 **Jun, Claire**  
Liposome Nanoparticle For The Treatment Of Vascular Diseases

Hoover High School

3 CH 345 **Madrid, Arielle**  
Do Natural Drinks Provide More Electrolytes Than The Leading  
Brand Sports Drinks?

Oakwood Adventist Academy

4 CH 346 **Springer, Sabrina**  
Interactions Of Caffeine With Anticancer Medication, Topotecan,  
With NMR Spectroscopy

Alabama School of Fine Arts

4 CH 347 **Yarbrough, Charity**  
Studies Towards The Interactions between Caffeine And Anti-  
Cancer Medications Using NMR Spectroscopy

Valley Fellowship Christian Academy

HM CH 341 **Brown, Dustin**  
Burn Time Comparison Of Various Recycled Oils For Use As Fuel

Mary G Montgomery School

HM CH 344 **Kizer, Aalayah**  
The Effects Of Melatonin On The Reaction Rate Of Catalase

Davidson High School - \*

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**Earth & Environmental Sciences**

1	EA	362	<b>Donovan, Haley</b> Achroia grisella As Effective Decomposers Of Polyethylene	Wetumpka High School
2	EA	363	<b>Forbes, Louisa</b> The Investigation Of Sustainable And Convenient Methods Of Generating Biofuels	W.P. Davidson High School
3	EA	360	<b>Bheemanathini, Trisha</b> The Effects Of Nanosilver On Pond Organisms	<b>Carol He and Ja</b>
4	EA	361	<b>Christopher, Will</b> Keep Toxic Lotion Out Of The Ocean	Alabama School of Fine Arts
4	EA	365	<b>Ortiz, Daniel</b> How soaking seeds in liquids with different Ph affect the germination rate?	Patrician Academy
HM	EA	364	<b>Isaacson, Vivian</b> Rain or Shine	Oakwood Adventist Academy
HM	EA	366	<b>Peak, Shemai'ya</b> The Greenhouse Effect And The Enhanced Greenhouse Effect: Demonstrating And Analyzing Their Effect On Our Environment	St. John Paul II Catholic High School
				Stanhope Elmore High School

**Embedded Systems / Systems Software**

1	ESSS	440	<b>Donaldson, Kayla</b> Heat Detecting Car Seat	<b>Coy Trammell and</b>
				Hewitt-Trussville High School

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**Category**

<u>Place</u>	<u>Proj. No.</u>	<u>Name</u>	<u>School</u>
2	ESSS 441	<b>Hawkes, Gabriella</b> Using The Class Schedule Optimizer To Transform High School Administration By Leveraging Cloud Computing	St. John Paul II Catholic High School
3	ESSS 444	<b>Xiao, Cary</b> MADSA: Musical Accuracy Development Using Spectral Analysis	Alabama School of Math and Science
4	ESSS 442	<b>Manscill, Abigail</b> Innovated Crosswalk For Disabled And Elderly Pedestrians	Hewitt Trussville High School
4	ESSS 443	<b>McCombs, Carson</b> Tabletop-Link	Jaden Arnold Hewitt Trussville High School

**Energy: Chemical / Energy: Physical**

1	ECEP 384	<b>Noh, Brayden</b> Flexible And High-Powered Supercapacitor From Low-Cost And Simple Building Method	Auburn High School
2	ECEP 381	<b>Gallups, Cameron</b> Step-By-Step Power: Movement Powered Charger For USB Devices	Hewitt-Trussville High School
3	ECEP 380	<b>Crosby, Peyton</b> Wireless Electricity: Simple Yet Effective	Wetumpka High School
4	ECEP 382	<b>Gautreaux, Adam</b> Rechargeable vs. Primary: Which Battery Is Better?	St. John Paul II Catholic High School
HM	ECEP 383	<b>Hutsler, Claytin</b> Testing Lighting As An Alternative Energy Source	Wetumpka High School

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**Engineering: Mechanics**

1	EM	421	<b>Jennings, Javon</b> The Impact Of Reflective Parabolic Wing Position To Concentrating Solar Energy In A CAD Designed Automated Arduino Controlled Solar Tracking Absorption Device	Key Destiny Academy
2	EM	422	<b>Laney, Brantley</b> Device To Accurately Measure Hydraulic Fluid In Tractors And Utility Vehicles	Central Freshman Academy - *
3	EM	420	<b>Burford, Luke</b> Gravity Generator	Lucas Campbell a  Hewitt Trussville High School

**Environmental Engineering**

1	EE	401	<b>Lange, Noel</b> Development Of Innovative Strategies To Protect The Aquatic Environment From Household Plastic Microfibers: Application Of Electrostatic Water Filtration	Auburn High School
2	EE	402	<b>Mewes, Marie</b> One Drop At A Time: Alternative Water Filtration Solutions Using pH, TDS, And EC Measurements	Holy Spirit Catholic High School
3	EE	400	<b>Gullapalli, Abhinav</b> Creating A Java Based Decision Model To Evaluate Air Pollution Particles Remediation With Trees	Hoover High School
4	EE	403	<b>Pruitt, Joshua</b> The Effect Of Turbine Lengths On Hydroelectric Turbine Power Plants	W.P. Davidson High school

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**Materials Science**

- 1 MS 471 **Pant, Aniket**  
Novel Applications Of Machine Learning in Ultrafast Optics  
Jefferson County International Bacculaureate
- 2 MS 472 **Rangari, Shashank**  
Development Of 3D Printing technique For Sustainable Automotive  
Polymer Composite Materials  
Auburn Junior Highschool
- 3 MS 470 **Kung, Catherine**  
Creating A Pectin-Based Temperature-Sensitive Artificial Skin  
Indian Springs School
- 4 MS 473 **Yadav, Eshita**  
Formation Of Gold Nanoparticles Using Plasma Treatment  
Hoover High School

**Mathematics**

- 1 MA 460 **Pilkinton, Hayden**  
Are Crowds Really Wise: Testing The Wisdom Of The Crowd  
Holy Spirit Catholic High School

**Physics & Astronomy**

- 1 PH 490 **Whitehead, Victoria**  
G-Force: Angels Making Pilots Go Faster  
Holy Spirit High School
- 2 PH 480 **Banerjee, Eesha**  
Optical Characterization Of Fe And Cr Doped ZnSe And ZnS  
Polycrystals For Mid-IR Lasing Applications  
Alabama School of Fine Arts

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**Category**

<b>Place</b>	<b>Proj. No.</b>	<b>Name</b>	<b>School</b>
<b>Project Title</b>			
3 PH	483	<b>Drown, Sarah-Kate</b> Go With the Flow	Providence Classical School
3 PH	485	<b>Greene, Colton</b> Wind Tunnel Design And Diecast Car Aerodynamics II	Wetumpka High School
3 PH	488	<b>Lee, Jaeyoung</b> Development Of Single-Input Habitable Zone Formulas	Auburn High School
4 PH	481	<b>Beumer, Hannah</b> Testing Medieval Seige Weapons For Modern Day Application	<b>Darrell White</b>
4 PH	482	<b>Blevins, Catherine</b> Capital X: Designing And Testing A Procedure For Building An Inexpensive X-ray Generator	Wetumpka High School
4 PH	487	<b>Johnson, MiKayla</b> Investigating Metallicity-Redshift Relations Of Different Masses To Star Formation Rate	Covenant Christian Academy
HM PH	484	<b>Eaton, Sariah</b> How Many Can You Make	Wetumpka High School
HM PH	486	<b>Hodgins, Daniel</b> To Plug Or Not To Plug	Murphy High School
HM PH	489	<b>Thornton, Tyler</b> Baseball Pitches	Baker High School
			Murphy High School

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**Plant Sciences**

1	PS	502	<b>Li, Christen</b> How Does NMN Affect Plant Germination?	
				Oakwood Adventist Academy
2	PS	501	<b>DAVIS, SHELBY</b> Seeds vs Detergent	
				Smiths Station Freshman Center
HM	PS	500	<b>Arya, Ritikraj</b> Plant Hormone Abscisic Acid As A Novel Chemotherapeutic Agent In Breast Cancer	
				LAMP High School

**Robotics and Intelligent Machines**

1	RI	521	<b>Diggs, Destinie</b> LIAM - The Lowcost Intelligent Anthropomorphic Machine	
				Baldwin County Virtual School
2	RI	522	<b>Jiang, Zichao</b> The Application Of Convolutional Neural Network On Plant Image Classification For Agricultural Weed Removal	
				Indian Springs School
3	RI	520	<b>Davis, Benjamin</b> Development And Comparison Of Different Pathfinding Algorithms In Obstacle Mapping	
				Auburn High School