

# SENIOR FAIR

## **(ANIM)** **ANIMAL SCIENCE**

**Ella Thomas**  
Brookwood  
*The Great Heart Rate*

**Vivian Vo**  
Buford HS  
*The Effect of  
Population on Stress*

**Sawda Islam**  
**Ibaad Khan**  
Collins Hill HS  
*Effects of Vitamin B3 on  
the Behavior of E. fetida*

**Tiffany Huang**  
**Frank Tsang**  
GSMST  
*Effect of Copper (II) Nitrate  
on the Growth of Earthworms*

**Alexander Hall**  
**Kate Jensen**  
Parkview HS  
*Efficacy of Lure  
Components*

**Alisha Chawla**  
**Nicole Diaz**  
**Jenna White**  
Peachtree Ridge HS  
*Ants & Their Environments*

## **(BCHM)** **BIOCHEMISTRY**

**Kayla Nguyen**  
**Alexis Rodriguez**  
Brookwood  
*Which pH of Common  
Brands of Water is Best  
for Protein Digestion?*

**Amen Gashaw**  
Brookwood  
*Cooking Up Calories*

**Regina Luu**  
**Jenny Pham**  
Collins Hill HS  
*The Effect of Ascorbic  
acid on Bisphenol*

**Jesse Chen**  
**Martin Still**  
GSMST  
*Effects of Fertilizers &  
Pesticides on Apple  
Vitamin C Content*

## **(BEHA) BEHAVIORAL** **& SOCIAL SCIENCE**

**Vienna Cragin**  
Brookwood  
*Does expectation  
affect perception*

# SENIOR FAIR

**Ashley Wilson**

Buford HS

*Are Stop Signs Flawed?*

**Wesley Truong**

Collins Hill HS

*Cross Race Effect  
in High School*

**Marco Suarez Sanchez**

Collins Hill HS

*Effects of Gender and  
Perception of Video Games*

**Noelle McIntyre**

Collins Hill HS

*Sensory Integration for  
Special Needs Children*

**Emily Chancellor**

Collins Hill HS

*Teaching Perfect Pitch  
Using Color Synesthesia*

**Catherine Christensen**

**Lauren Westfall**

Collins Hill HS

*The Effects of Color  
Blindness on Memory*

**Avril Rowland**

Lanier HS

*Trust and Influences*

**Alexander Hill**

Parkview HS

*How does EDM affect a  
runner's speed?*

**Tyriq Neal**

Shiloh HS

*In Living Color*

## **(BMED) BIOMEDICAL & HEALTH SCIENCE**

**Jack Do**

Archer HS

*Drinks in Action*

**Peyton Barnett**

**David Brueland**

**Aydan Derise**

Archer HS

*How High Can We Get?*

**Iffah Jiwani**

**Nia Perkins**

Brookwood HS

*Lotion in Motion*

**Joshua Lee**

Collins Hill HS

*The Posture Backpack*

**Shama Khan**

**Angelique Khieu**

Central Gwinnett HS

*Artificial Pancreas*

# SENIOR FAIR

## **Vani Senthil**

Duluth HS  
*Navigational Device  
for the Blind*

## **Abhiramgopal Akelia**

GSMST  
*Parkinson's Disease:  
TNF Inhibitor Effect in a  
Progressive Model*

## **Jonas Chan**

GSMST  
*Alternative Natural  
Remedy for Bacterial Growth*

## **Alero Ojo**

GSMST  
*The Staining of Teeth  
and Why It Happens: Tea Edition*

## **Sophia Cabrera**

**Joseph Hipple**  
Lanier HS  
*Project Pancreas*

## **Qing Gao**

**Kiara Harding**  
Parkview HS  
*Inhibiting Growth of CAL-1  
Cells with Retinol and  
Retinoic Acid*

## **Bryce Thomas**

Parkview HS  
*Sweaty pH, differences  
among sex*

## **Jayla Ferguson**

**Dhyana Zaver**  
Shiloh HS  
*No. 1 Teeth Stainer*

## **Juhi Patel**

**Viviana Ventosill**  
Shiloh HS  
*pH Palooza*

## **(CBIO)**

## **COMPUTATIONAL BIOLOGY & BIOINFORMATICS**

## **Dhaivat Mehta**

GSMST  
*Modeling Contact Mediated  
Killing Leading in  
Microbial Colonie*

## **Suraj Modi**

Mountain View HS  
*Non-Invasive Rapid  
Diagnosis For Eye Cancer  
Using Neural Networks*

## **(CELL) CELLULAR & MOLECULAR BIOLOGY**

## **Samantha Whitt**

**Genevieve Wilson**  
Collins Hill HS  
*Effects of MSG on Cancer in  
Drosophila Melanogaster*

# SENIOR FAIR

**John Kang**

Collins Hill HS

*Efficacy of Silver Nano particles in NIR LED Photothermal Therapy*

**Nicholas Couchara**

GSMST

*Investigating the Effects of UV Radiation on Yeast Colony Growth*

## **(CHEM) CHEMISTRY**

**Katherine Rhodes**

Collins Hill HS

*All-Natural Makeup Remover Wipes*

**Sheefa Ali**

Collins Hill HS

*All-Purpose, Affordable, and Attainable Wax Coating*

**Nolan O’Harra**

Collins Hill HS

*Cost Effective Methods For Projectile Prevention*

**Johaer Jilani**

Collins Hill HS

*Effects on Efficiency of Desalination*

**Teagan Walsh**

Collins Hill HS

*Let’s Get Spherical*

**Joel Gregory**

**John Petrucci**

**Christian Renkema**

Collins Hill HS

*The Goo Gun*

**Cianna DeSandre**

**Bria Fuller**

**Gabrielle Smith**

Mountain View HS

*The Effect of Pill Type on Disintegration & Processing*

**Zoya Amirali**

Collins Hill HS

*Luminol vs. Kastle-Meyer Test*

**Sadie Maxwell**

Collins Hill HS

*Organic Waterproof Mascara*

**Jennifer Ong**

Collins Hill HS

*Synergy of Essential Oils*

**Natalie Jones**

Collins Hill HS

*The Effect of Temperature on the Visibility of Blood*

**Kerry Smethers**

Collins Hill HS

*The Thermal Conductivity of Graphene on Hands*

# SENIOR FAIR

**Joy Dang**

Parkview HS

*Corrosion of Nails*

**Abby Le**

**Tai Pressly**

**Rithik Raina**

Peachtree Ridge HS

*The Effects of Solution  
on Contacts: It*

*Surfactantly Matters!*

**Tyler Emch**

**Brendon Hartman**

Peachtree Ridge HS

*Thickening Power of Starches*

## **(EAEV) EARTH & ENVIRONMENTAL SCIENCE**

**Andrea Blair**

**Elizabeth Czarick**

**Hannah Dickerson**

Archer HS

*Fresh Water Feathers*

**Sela Redford**

Archer HS

*Singing in the Rain  
Again: Buffering the  
Effects of Acid Rain*

**Maddie McCormack**

**Christen Warth**

Brookwood

*Science vs. the Internet*

**Maliha Qassaimali**

**Kayleigh Saunders**

Brookwood HS

*Nasty Nanoparticles*

**Cindy Nguyen**

**Samantha DeLeon**

Central Gwinnett HS

*Bioremediation*

**Britney Pena**

**Kiet Nguyen**

**Joshua Tyrell**

Central Gwinnett HS

*Biodiesel Yield Experiment*

**Lauren Keever**

**Stacy Powell**

**Nicole Alvarez**

Central Gwinnett HS

*Getting the Dirt on Gas  
Station Pollution*

**Amy Truong**

**Albert Pham**

**Anh-Thu Do**

Central Gwinnett HS

*Go Bananas Over  
GroundBreaking Discovery  
on Lead Removal*

# SENIOR FAIR

**Kenny Mondesir**  
Meadowcreek HS  
*The Big Dig*

**Emina Begovic**  
**Zenia Cole**  
**Semhal Mekonen**  
GSMST  
*A Suburban Pond*  
*vs. Lake Lanier:*  
*Which is healthier?*

**Amanda Kim**  
Lanier HS  
*Sugar Extraction*

**Amanda Mimm**  
**Hunter Wells**  
Lanier HS  
*Artificial Photosynthesis*

**Grace Hu**  
**Thuy Pham**  
Parkview HS  
*Alternative Water*  
*Filtration Treatment:*  
*Chitosin Coagulation*

**Neo Treaster**  
**Joe Yonathan**  
Peachtree Ridge HS  
*Miniature Compost Bin*

## **(EBED)** **EMBEDDED SYSTEMS**

**Daniela Uribe**  
GSMST  
*Forecast the*  
*Electric Discharge*

## **(EGCH)** **ENERGY:CHEMICAL**

**Landon Burton**  
**Lauren Sandidge**  
Archer HS  
*From Trash to Gas*

**Luis Pastore-Manzano**  
Brookwood HS  
*Rocket Launch*

**Kendra Womack**  
Brookwood HS  
*Which Electrolytes*  
*Produce the Most Energy*

**David Cruz**  
**Landon Jarrell**  
Collins Hill HS  
*Piezoelectric Peripherals*

**Vrinda Naik**  
**Dwhani Patel**  
Collins Hill HS  
*Save the Sweat*

# SENIOR FAIR

**Patrick Aghadiuno**  
**John Moreno**  
**Saman Muhammad**  
GSMST  
*Fuel of the Future:  
Biodiesel*

## **(EGPH) ENERGY: PHYSICAL**

**Eduardo Garcia Soto**  
**Neil O'Connor**  
Archer HS  
*Electric Power Plant*

**Neha Jacobs**  
Brookwood HS  
*Effects of Angles of a  
wind turbine's blades on  
its voltage*

**Syed (Abbas) Shah**  
Brookwood HS  
*The Effect of Thermal  
Kinetic Energy on  
Piezoelectric Transducers*

**Ramona Deobath**  
**Shania Persaudie**  
Central Gwinnett HS  
*Thermoelectricity*

**Jessica Yeh**  
Duluth HS  
*Harvesting Kinetic Energy to  
Produce Electrical Energy*

**Junaid Khan**  
**Christian Ouellette**  
GSMST  
*Generating Power from  
Wind Resistance Produced  
by Moving Vehicles*

**Minkyu Lee**  
**Dohyeon Yoo**  
Peachtree Ridge HS  
*Phone Charger on a Bike*

**Ryan Levy**  
**Shaz Molu**  
Peachtree Ridge HS  
*Stirling Engine*

## **(ENBM) BIOMEDICAL ENGINEERING**

**Natalie Barrera**  
Collins Hill HS  
*Magnets and Dementia*

## **(ENEV) ENVIRONMENTAL ENGINEERING**

**Jared Smith**  
Archer HS  
*Increasing Output -  
The Solar Wind Turbine*

# SENIOR FAIR

**Lauren Chin**

Collins Hill HS

*Oil Sorption Capacities  
of Chicken Feathers*

**Noah Fleece**

Collins Hill HS

*Using Different Protein  
Powders to Filter Metals  
Out of Water*

**J'yssa Webster**

**Tia Williams**

Grayson HS

*Biodegradable Plastics*

**Joshua Chough**

**Sophia Kim**

**Jun Ho Yoon**

GSMST

*A Graphene Oxide Water  
Filter for Improved Efficiency  
and Cost*

**Lydia Campbell**

**Hoa (Helen) Nguyen**

**Anna Qian**

GSMST

*Testing Desalination Dome  
Designs on a Saltwater Desalinator*

**Flores Camryn**

**Britley Jones**

Lanier HS

*Filtration of Agrochemical  
Pollution*

## **(ENMC) ENGINEERING MECHANICS**

**Whitney Heller**

**Alexandria Kiefer**

**Grace Maurer**

Archer HS

*Vital Vibrations*

**Max Fenno**

**Mitchell Whalen**

Buford HS

*Engineering of a Candy -  
Dispensing Machine*

**Madison McManners**

Buford HS

*The Engineering of an  
Adjustable Paintbrush*

**Hunter Champeau**

**Ellis Zsoldos**

Buford HS

*Musician's Shoe*

**Daniel Garcia**

**Kristen Szalkowski**

Buford HS

*Using a Shopping Cart  
Wheel to Charge a Phone*

**Mukram Aljandali**

Collins Hill HS

*Party Box*



# SENIOR FAIR

**Napelean Srey**

Grayson HS

*LED Traffic Light*

*Up Glove*

**Shirsath Sakeet**

Grayson HS

*Sensor Leveling System*

*for Efficient Field*

*Data Collection*

**Conner Bacon**

**Daniel Garrison**

**Ben Phillips**

Grayson HS

*The Hose Horn*

**Rafaella Attonito**

**Nadou Lawson-Lartego**

**Aaliyah Nelson**

Grayson HS

*The Puffer Bag*

**Alex Kim**

**Sunil Reddy**

GSMST

*Creating a 3*

*Dimensional Digital*

*Input with Magnetic Sensors*

**Sean Eva**

GSMST

*Geometric Aerodynamics*

**J.J. Choi**

**Julius Tao**

**Joseph Zhang**

GSMST

*Hydroelectric Generator*

*for Use in the Common*

*Household*

**Soumya Khanna**

**Francine Kibwana**

**Lama Zaabab**

GSMST

*Piezo Powered Sole*

**Randy Ruch**

**Brandon Ruffolo**

**Logan Zagotti**

Lanier HS

*XPS Phone Charger*

**Morgan Broniec**

**Annie Lloyd**

**Jessie Lowe**

Peachtree Ridge HS

*Compression &*

*Heating Glove for Arthritis*

**Shawn Im**

Peachtree Ridge HS

*Correlation of Drone*

*Requirement and Weight*

# SENIOR FAIR

**Medha Madangarli**  
**Karishma Sabnani**  
**Hanna Taylor**  
Peachtree Ridge HS  
*Crawling Aide for Infants  
with Spina Bifida*

**Daniel Webster**  
Peachtree Ridge HS  
*Hand Crank Phone Charger*

**Kevin Park**  
**Avinash Sivakumar**  
**Oliver Stephan**  
Peachtree Ridge HS  
*Hydraulic Lift Wheelchair*

**Hasanain Karim**  
Peachtree Ridge HS  
*Modern Wallet*

**Ashley Galanti**  
**Valerie Santoso**  
**Amber Shillow**  
Peachtree Ridge HS  
*Mouthguards for Epileptics*

**Daisy Acosta**  
**Jin Jeon**  
**Lauren Widjaja**  
Peachtree Ridge HS  
*Prosthetic for Children*

**Ryan Lee**  
**Poojan Raval**  
Peachtree Ridge HS  
*Phone Wars: Cell Phones  
and Radiation*

**Sun Ho Park**  
**Addie Spinosa**  
Peachtree Ridge HS  
*Retractable Lacross Stick*

**Si Hun Hyun**  
**Ju Ho Jang**  
Peachtree Ridge HS  
*Wireless Computer Fan*

## **(MATH) MATHEMATICS**

**Faris El-Katri**  
GSMST  
*Exploring Gravity When  
Constrained to Two  
Spatial Dimensions*

## **(MATS) MATERIALS SCIENCE**

**Ethan Eakin**  
Archer HS  
*BBCOR Technology  
Affects Hitting Distance*

**Celestin Hering**  
Brookwood HS  
*Construction Without destruction*

# SENIOR FAIR

**Lara Jarrel**  
Collins Hill HS  
*Got Plastic?*

**Victoria Kabat**  
Collins Hill HS  
*Non-Drying Liquid Lipstick*

**Carson Skidmore**  
Collins Hill HS  
*Stay Tuned*

**Thanh Nguyen**  
GSMST  
*Overlooked Concussions  
in the Sport of Water Polo*

**Jose Gonzalez**  
**Alitzel Serrano**  
Meadowcreek HS  
*Effect of Ca-Doping  
on YBCO Superconducting  
Properties*

**Ethan Frommer**  
**Zachary Reed**  
**Mohama-Baasim Rehan**  
Mill Creek HS  
*Corrosion Preventative  
Strategies*

## **(MCRO)** **MICROBIOLOGY**

**Destiny Okonkwo**  
Central Gwinnett HS  
*Ecoli vs. Ampicillin*

**Jena Jibreen**  
**Merin Williams**  
Collins Hill HS  
*Bacteria Beats*

**Kotryna Diktonaite**  
Collins Hill HS  
*Discussion on the Effects  
of Norepinephrine*

**Max Choi**  
Collins Hill HS  
*Effects of Fatty Acid on  
Survival of Amphidinium algae*

**Miller Horn**  
Collins Hill HS  
*Honey and Garlic as a  
Food Antibacterial*

*Aman Patel*  
Collins Hill HS  
*Soap & Water vs.  
Hand Sanitizer*

**Melissa Juarez**  
**Maria Lehmborg**  
Collins Hill HS  
*The Fertility Factor*

# SENIOR FAIR

**Nooreen Farooqui**

**Michelle George**

GSMST

*A Study of How Bacteria Serve  
as Indicators of Soil Quality*

**Leonardo Medellin**

**Trinity Storm Vasquez**

**Emily Xu**

GSMST

*Effectiveness of an Amino  
Acid in Mouthwash  
Against Plaque*

**Madina Eshova**

**Zaina Khutliwala**

**Vincent Nguyen**

GSMST

*Finding Alternatives to  
Commercial Antimicrobial  
Scrubs*

**Spencer Kim**

**Minchan Kim**

**Cheuk Lo**

GSMST

*Finding the Ideal Time  
Frame of When *E. coli* Dies  
Under UV Light*

**Hania Hashmi**

**Farisha Sultan**

GSMST

*The Effects of Herbal  
Remedies Inhibiting  
Growth of *E. coli**

**Riya Patel**

**Annie Patel**

**Mariam Mohammad**

GSMST

*The Effect of ECGC  
on Aerobic and  
Anaerobic Bacteria*

**Iris Jeon**

**Michelle Kim**

**Maria Olifer**

GSMST

*Water Contamination  
Determined by Luminescence  
of *Vibrio fischeri**

**Catalina Ney**

**Amy Wang**

Parkview HS

*The Dirt on Shopping*

**Sydney Augh**

**Sterlane Bazile**

**Natalie Luong**

Peachtree Ridge HS

*Bacterial Kill Zones*

**Melissa Gilpin**

Peachtree Ridge HS

*New *Mycoplasma* Characteristics*

**Madison Borman**

**Kayla Davis**

**Sana Hafeez**

Peachtree Ridge HS

*Effective of Disinfectant  
on *E. coli* K-12*

# SENIOR FAIR

## **(PHYS) PHYSICS & ASTRONOMY**

### **Abigail Palmieri**

Archer HS

*The Effect of Gravity on  
E. coli Growth Rates*

### **Clarke Remley**

Brookwood

*Does Magnetism Affect  
Launch Distance of  
an Object?*

### **Mei Deng**

#### **Jackee Gwynn**

Brookwood HS

*How Does Magnetism Affect  
the Rate of Flow of Salt Water*

### **Cameron Hall**

#### **Morgan Smith**

Buford HS

*How Height and Stride  
Affect the Distance a  
Ball Travels*

### **Seth Auer**

#### **Hannah Barnard**

Buford HS

*The Effects of Guardian  
Cap Headguards on  
Player Protection*

### **Ines Grba**

Central Gwinnett HS

*Cellular Devices and  
Electromagnetic Radiation*

### **Renee Justice**

#### **Peyton Salo**

Buford HS

*The Effects of  
Lubricants on Friction*

### **Raveena Vellingiri**

#### **Nicole Vellingiri**

Central Gwinnett HS

*Shielding Planet Mars*

### **Satya Jella**

GSMST

*Low-Power UV  
Photolithography for  
Microfabrication*

### **Benjamin Breer**

GSMST

*Orbital Trajectory  
Deviation Patterns of  
the Galilean Satellites*

### **Deven Laurens**

Lanier HS

*Blackholes Thermodynamics*

### **Lauro Mendoza**

Meadowcreek HS

*Effect of Meteor Size  
on Crater Size*

# SENIOR FAIR

**Matthew Kim**  
Mountain View HS  
*Models of Supernovae  
With Computational  
Hydrodynamics*

## **(PLNT)** **PLANT SCIENCE**

**Alexander Hong**  
**Kevin Ng**  
Brookwood HS  
*Calories, Soybeans,  
and GMOs*

**Grace Yu**  
Collins Hill HS  
*The Effect of Rhizobium  
Leguminosarum on  
Plant Growth*

**Alexandria Jones**  
**Joanna Ramirez**  
Collins Hill HS  
*Stressed Communication*

**Giselle D'Silva**  
**Madison Greer**  
GSMST  
*The Effect of Organic Fruits  
on the Longevity of a  
Fruit Fly*

**Emma Jones**  
Mill Creek HS  
*Electroculture and Agriculture*

**Rea Devera**  
**Ana Joja**  
Mill Creek HS  
*How does Radiation  
Affect Plant Life*

**McKenzie Murray**  
Shiloh HS  
*Grow with a Rainbow*

**Kimberly Clark**  
Shiloh HS  
*Leaf Chromatography*

**Gloria Ham**  
**Vicky Ham**  
**Christina Hung**  
Peachtree Ridge HS  
*Allelopathy in Pepper Plants*

## **(ROBO)** **ROBOTICS** **& INTELLIGENT** **MACHINES**

**Terry Kang**  
**Minyoung Kim**  
**Beverley Sylvester**  
Peachtree Ridge HS  
*Object Identifying Box  
for Visually Impaired*

# SENIOR FAIR

**Aldin Skoric**

**Ryan Hager**

Central Gwinnett HS

*Built vs. Bought*

**JaQuaylon Taylor**

Lanier HS

*Project "Panda"*

## **(SOFT)**

### **SYSTEMS SOFTWARE**

**Stella Alverson**

**Sierra Baxter**

Buford HS

*Rise and Shine*

**Andrew Goeden**

**Micheal Sutton**

Lanier HS

*Study Bud*

**Caleb Howard**

**Caleb Lafeve**

Lanier HS

*Group Coding*

**Greg Loj**

**Anu Patel**

**Shalu Patel**

Collins Hill HS

*The Food Cloud*

**Ryan Miles**

**Sara Scales**

Mill Creek HS

*Predicting Future*

*Traffic in California*

**Vishva Natarajan**

Norcross HS

*Rtlog-Real-Time Monitoring*

*and Administration of UAV*

## **(TMED)**

### **TRANSLATIONAL MEDICAL SCIENCES**

**Ricardo Juarez**

**Joshua Messer**

Archer HS

*Back to Reality*

**Anushka Saxena**

GSMST

*Coelenterazine*

*Biosynthesis:*

*Novel Implications in*

*Optogenetics*

**Mary Eastland**

**Jared Neil**

**Gideon Ogunwale**

Archer HS

*Essential Oil Wars*