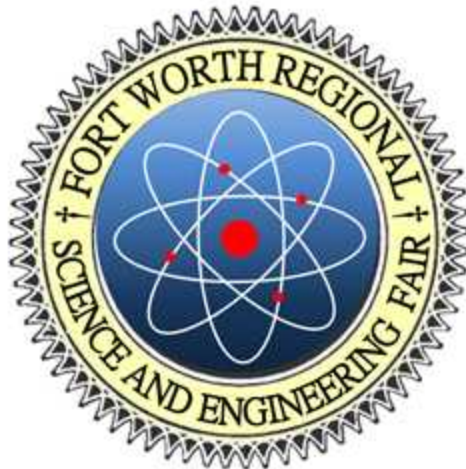
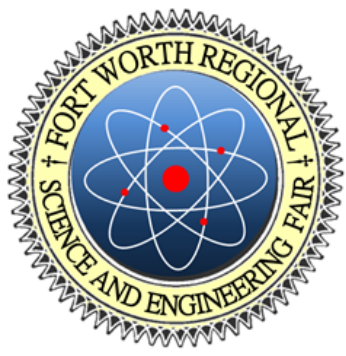




# 2022 Fort Worth Regional Science and Engineering Fair

## Special Awards





# 2022 Fort Worth Regional Science and Engineering Fair

## American Meteorological Society

---

**1st Place:** The Planet Needs Our Kelp! The Analysis of the Carbon Sequestration Potential of Macroalgae

**Project ID:** 161319

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Trinity Nguyen

**1st Place:** Earth to Mars: Growing Photosynthetic Anaerobic Bacteria on Stimulant Martian Soil Under Anaerobic Conditions.

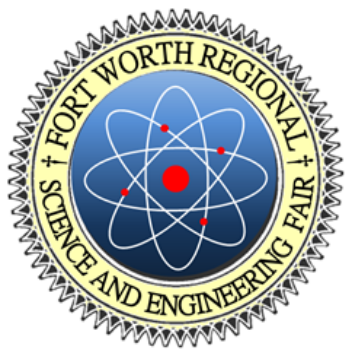
**Project ID:** 163438

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Physics & Astronomy

**Students:** Mouktika Sripathi



# 2022 Fort Worth Regional Science and Engineering Fair

## American Psychological Association

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**1st Place:** Evaluating Psychological Principles through User Experience Design

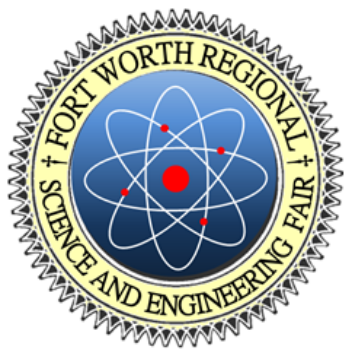
**Project ID:** 162093

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Behavioral & Social Sciences

**Students:** Jenna Hassan



# 2022 Fort Worth Regional Science and Engineering Fair

## American Society for Quality, Greater Fort Worth Section 1416

---

**1st Place:** Don't Get Burned: Refining The Research

**Project ID:** 168524

**School:** Jerry Knight Stem Academy

**Division:** Junior

**Category:** Engineering: Materials & Bioengineering

**Students:** Kyle Alferink

**1st Place:** Hazardous Air Pollutants Effects on Breast Cancer Incidence Rates

**Project ID:** 175023

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Brandy Xie

**2nd Place:** The Analysis of the Synergistic Effects of Curcumin and Light Therapy in Wound Healing of *D. tigrina*

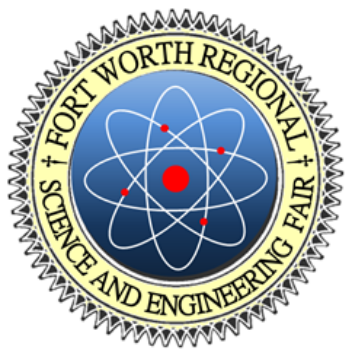
**Project ID:** 160753

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Animal Sciences

**Students:** Mehreen Chowdhury



# 2022 Fort Worth Regional Science and Engineering Fair

## American Society for Quality, Greater Fort Worth Section 1416

---

**2nd Place:** The Effect of blue light emitted by LED screens on the Activity Patterns of Acheta domesticus.

**Project ID:** 181002

**School:** Acton Middle School

**Division:** Junior

**Category:** Animal Sciences

**Students:** Amariz Lumbreras

**3rd Place:** Bombs Away

**Project ID:** 156862

**School:** Liberty Christian School MS

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Cade Violi

**3rd Place:** Using Three Natural Polymers to Create An Efficient Hybrid Bioplastic

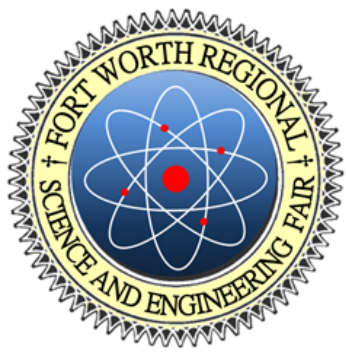
**Project ID:** 180991

**School:** Granbury High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Scout Skaggs



# 2022 Fort Worth Regional Science and Engineering Fair

## ASM Materials Education Foundation

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**1st Place:** Using Three Natural Polymers to Create An Efficient Hybrid Bioplastic

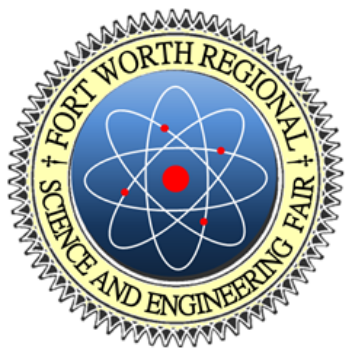
**Project ID:** 180991

**School:** Granbury High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Scout Skaggs



# 2022 Fort Worth Regional Science and Engineering Fair

## Association for Women Geoscientists

---

**1st Place:** Breaking Chemical Bonds by Force: A Computational Investigation of Metal C-H Interaction Under High Pressure

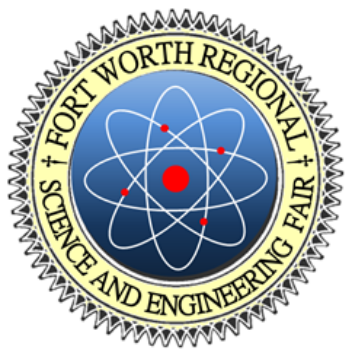
**Project ID:** 170100

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Chemistry

**Students:** Carly Yang



# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Junior Division

---

**1st Place:** Don't Get Burned: Refining The Research

**Project ID:** 168524

**School:** Jerry Knight Stem Academy

**Division:** Junior

**Category:** Engineering: Materials & Bioengineering

**Students:** Kyle Alferink

**2nd Place:** The Effect of blue light emitted by LED screens on the Activity Patterns of Acheta domesticus.

**Project ID:** 181002

**School:** Acton Middle School

**Division:** Junior

**Category:** Animal Sciences

**Students:** Amariz Lumbreras

**3rd Place:** Copper tape layers and Their Effect on the Motion Sensitivity of a Home Made Sensor

**Project ID:** 181004

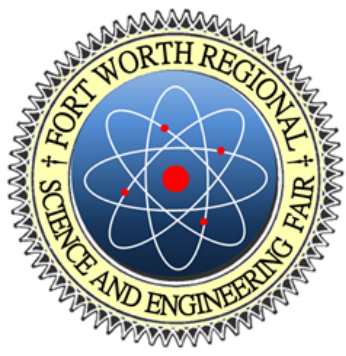
**School:** Acton Middle School

**Division:** Junior

**Category:** Computer Science

**Students:** Santiago Lumbreras





# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Junior Division

---

**4th Place:** Shake Stopper

**Project ID:** 170630

**School:** Graham Junior High School

**Division:** Junior

**Category:** Medicine & Health Sciences

**Students:** Cy Sweedler

**5th Place:** AC Condensate Line Open

**Project ID:** 165180

**School:** Colleyville Middle School

**Division:** Junior

**Category:** Earth & Planetary Sciences

**Students:** Daniel Thomas

**6th Place:** Does listening to music affect math skills?

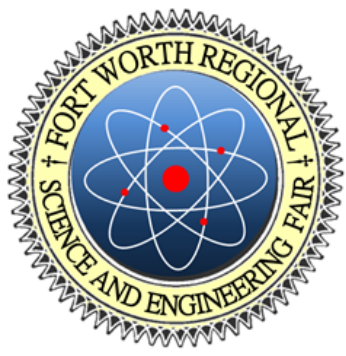
**Project ID:** 157037

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Behavioral & Social Sciences

**Students:** Nate Fabriga



# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Junior Division

---

**7th Place:** Effects of Different Soil and Compost Combinations on Plant Growth

**Project ID:** 159881

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Plant Sciences

**Students:** Joaquin Lopez

**1st Alt:** What type of sugary drink affects the enamel the most?

**Project ID:** 180734

**School:** Harmony Science Academy - Carrollton Middle School

**Division:** Junior

**Category:** Chemistry

**Students:** Aamna Rehan

**2nd Alt:** The Strawberry DNA Race

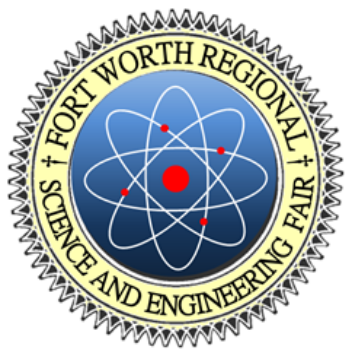
**Project ID:** 180877

**School:** Harmony Academy - Euless Middle School

**Division:** Junior

**Category:** Microbiology

**Students:** Vandita Kalia



# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Senior Division

---

**1st Place:** Novel-DTI - A Machine Learning Pipeline Created to Predict Drug-Target Interactions for Large-Scale Drug Repurposing and Drug Discovery using Multiplex, Heterogeneous Networks

**Project ID:** 170334

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Computer Science

**Students:** Shreya Amalapurapu

**2nd Place:** SIDS Mattress: Determining Infant Physiological Parameters with PVDF Sensors and Microphones to Detect SIDS with OCC Modeling

**Project ID:** 179867

**School:** The Oakridge School

**Division:** Senior

**Category:** Engineering: Materials & Bioengineering

**Students:** Eshan Singhal

**3rd Place:** Microfluidic Fabrication of Photonic Microlasers

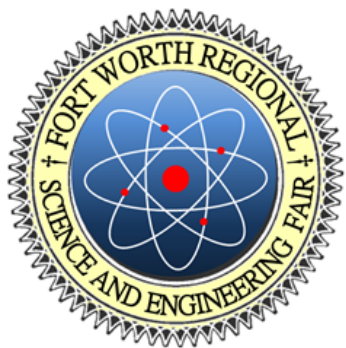
**Project ID:** 169925

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Jayanth Pandit, Bhanuprakash Kunam



# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Senior Division

---

**4th Place:** Breaking Chemical Bonds by Force: A Computational Investigation of Metal C-H Interaction Under High Pressure

**Project ID:** 170100

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Chemistry

**Students:** Carly Yang

**5th Place:** Optimizing Micro-Computer Architecture in the Arithmetic Logic Unit

**Project ID:** 174949

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Emily Troutman

**6th Place:** Using a Yeast-2-Hybrid Screen to Identify Interactors of RGPA1: A Gene That Induces Plant Defense Responses Against Green Peach Aphid (GPA) in *Arabidopsis thaliana*

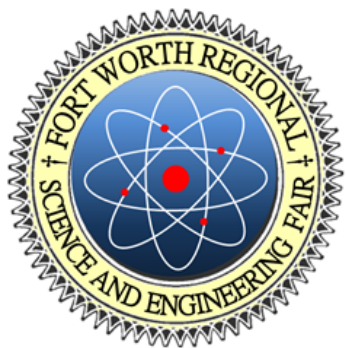
**Project ID:** 171232

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Plant Sciences

**Students:** Shreya Nair, Siddhartha Shah



# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Senior Division

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**7th Place:** Identifying Metabolites in *A. Heteromorphus* and *Magnaporthe Grisea* and Overproduction of Cytochalasins

**Project ID:** 169776

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Microbiology

**Students:** Arianna Fa, Neha Singaravelan

**1st Alt:** Using Three Natural Polymers to Create An Efficient Hybrid Bioplastic

**Project ID:** 180991

**School:** Granbury High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Scout Skaggs

**2nd Alt:** Elucidating the Pathways & Genomic Trajectories of Ovarian Cancer Persister Cells: Utilizing Single-Cell Transcriptomic Analysis on Patient Samples and Cell Line Models to Identify Ovarian Cancer Resistance Mechanisms

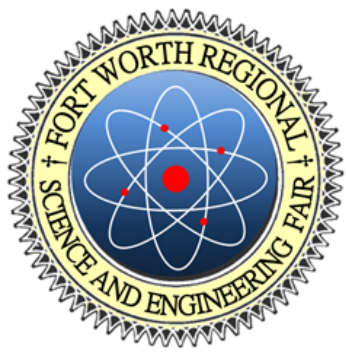
**Project ID:** 170111

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Biochemistry, Cellular, & Molecular Biology

**Students:** Anay Gupta



# 2022 Fort Worth Regional Science and Engineering Fair

## Charlie Mary Noble Award in Astronomy

**1st Place:** Earth to Mars: Growing Photosynthetic Anaerobic Bacteria on Stimulant Martian Soil Under Anaerobic Conditions.

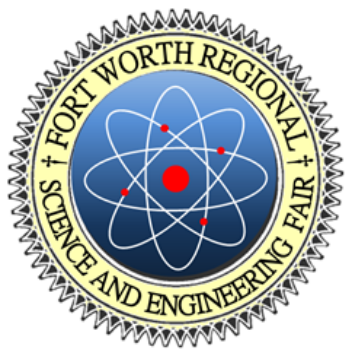
**Project ID:** 163438

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Physics & Astronomy

**Students:** Mouktika Sripati



# 2022 Fort Worth Regional Science and Engineering Fair

## Ellen and Delbert E. Lawry Award

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**1st Place:** How do Phones Affect Grades

**Project ID:** 156333

**School:** Jerry Knight Stem Academy

**Division:** Junior

**Category:** Behavioral & Social Sciences

**Students:** Katelynn Chambers

**1st Place:** Comparing the Efficiency of Homemade Energy-Fueled Briquettes From Food Waste to Coal Briquettes

**Project ID:** 160749

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Energy & Transportation

**Students:** Kailey Tran

**2nd Place:** Best Birdseed

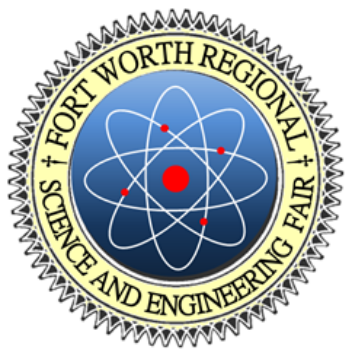
**Project ID:** 156732

**School:** Liberty Christian School MS

**Division:** Junior

**Category:** Animal Sciences

**Students:** Johnathan Aldape



# 2022 Fort Worth Regional Science and Engineering Fair

## Ellen and Delbert E. Lawry Award

---

**2nd Place:** Reinforcement Learning with Autonomous Cars

**Project ID:** 170976

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Computer Science

**Students:** Daniel Xiao, Caleb Tian, Eric Peng

**3rd Place:** Need For Speed

**Project ID:** 156737

**School:** Liberty Christian School MS

**Division:** Junior

**Category:** Engineering: Electrical & Mechanical

**Students:** Trey Stickl

**3rd Place:** Vitamins: Is Certification Important?

**Project ID:** 175344

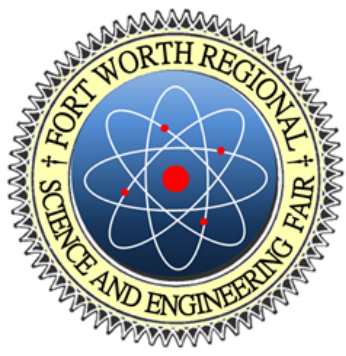
**School:** Harmony Science Academy - Carrollton High School

**Division:** Senior

**Category:** Biochemistry, Cellular, & Molecular Biology

**Students:** Teena Maliakal





# 2022 Fort Worth Regional Science and Engineering Fair

## Ellen and Delbert E. Lawry Award

---

**1st Alt:** Hardest hitter

**Project ID:** 159511

**School:** Liberty Christian School MS

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Andrew Hollenshead

**2nd Alt:** Homemade Battery

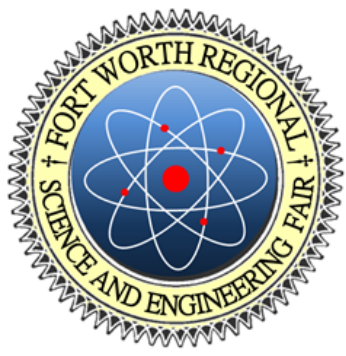
**Project ID:** 177104

**School:** Trivium Academy

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Tyler Clark



# 2022 Fort Worth Regional Science and Engineering Fair

## Fort Worth Area Psychological Association

**1st Place:** Candy Challenge: The Ability of Young Children to Distinguish Candy and Medicine

**Project ID:** 157171

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Behavioral & Social Sciences

**Students:** Jillian Lim

**1st Place:** Evaluating Psychological Principles through User Experience Design

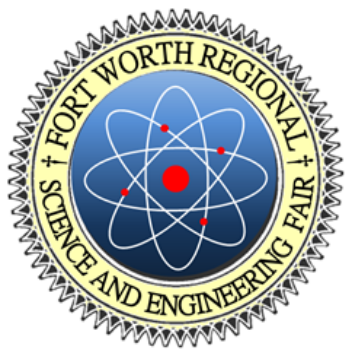
**Project ID:** 162093

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Behavioral & Social Sciences

**Students:** Jenna Hassan



# 2022 Fort Worth Regional Science and Engineering Fair

## Fort Worth Audubon Society Conservation Award

---

**1st Place:** Operation Chub-Bee: Comparing the Practicality of Homemade and Commercial Apis mellifera Pollen Substitutes

**Project ID:** 170963

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Animal Sciences

**Students:** Joeun Kim, Nhi Quach

**1st Place:** Plant growth pigment deterioration in correlation to global warming

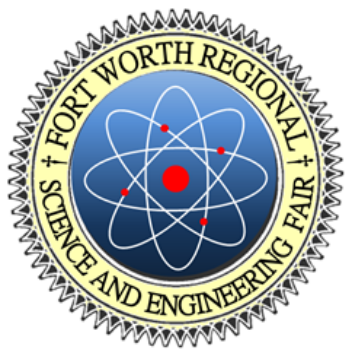
**Project ID:** 180668

**School:** Harmony School Of Innovation Middle School

**Division:** Junior

**Category:** Plant Sciences

**Students:** Myra Fidler



# 2022 Fort Worth Regional Science and Engineering Fair

## FWRSEF Teamwork Award

---

**1st Place:** Identifying Metabolites in *A. Heteromorphus* and *Magnaporthe Grisea* and Overproduction of Cytochalasins

**Project ID:** 169776

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Microbiology

**Students:** Arianna Fa, Neha Singaravelan

**1st Place:** Using Faster RCNNs to detect Gastrointestinal Ulcers in Capsule Endoscopy and Colonoscopy footage

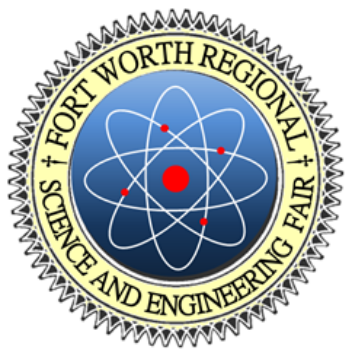
**Project ID:** 170055

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Medicine & Health Sciences

**Students:** Samuel Jacob, Sree Akkina, Sriram Ayalavarapu



# 2022 Fort Worth Regional Science and Engineering Fair

## IEEE - Fort Worth Section

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**1st Place:** Using Artificial Intelligence to Alert Blind Pedestrians of Hazards

**Project ID:** 161364

**School:** Irma Marsh Middle School

**Division:** Junior

**Category:** Computer Science

**Students:** Camilla Torrez, Pedro Villafranco

**1st Place:** Autonomously Controlling Unmanned Aerial Vehicles (UAVs) Through Machine Vision Algorithms

**Project ID:** 170107

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Belinda Dong, Adam Chen

**2nd Place:** Testing the efficiency of varying renewable energy sources' rates of power conversion.

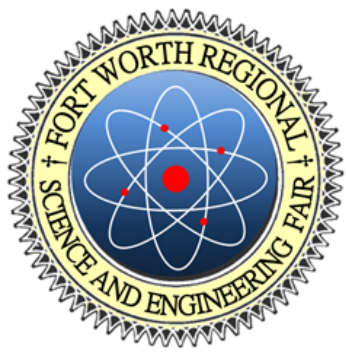
**Project ID:** 175459

**School:** Summit International High School

**Division:** Senior

**Category:** Environmental Management & Sciences

**Students:** Tabitha Hare



# 2022 Fort Worth Regional Science and Engineering Fair

## IEEE - Fort Worth Section

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**2nd Place:** Copper tape layers and Their Effect on the Motion Sensitivity of a Home Made Sensor

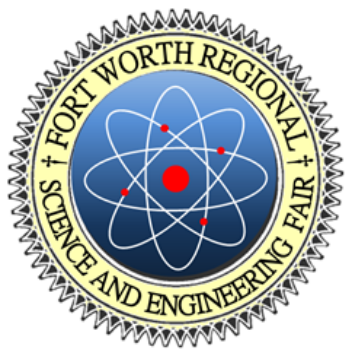
**Project ID:** 181004

**School:** Acton Middle School

**Division:** Junior

**Category:** Computer Science

**Students:** Santiago Lumbreras



# 2022 Fort Worth Regional Science and Engineering Fair

## Lemelson Early Inventor Prize

---

**1st Place:** The Perfect Multi-Dog Leash

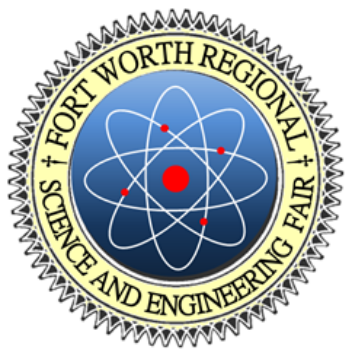
**Project ID:** 171202

**School:** Graham Junior High School

**Division:** Junior

**Category:** Engineering: Electrical & Mechanical

**Students:** Emma Mills



# 2022 Fort Worth Regional Science and Engineering Fair

## Lockheed Martin Aeronautics Company

---

**1st Place:** Microfluidic Fabrication of Photonic Microlasers

**Project ID:** 169925

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Jayanth Pandit, Bhanuprakash Kunam

**1st Place:** What Melts Ice Quicker?

**Project ID:** 181000

**School:** Irma Marsh Middle School

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Lorenzo Abalos

**2nd Place:** Optimizing Micro-Computer Architecture in the Arithmetic Logic Unit

**Project ID:** 174949

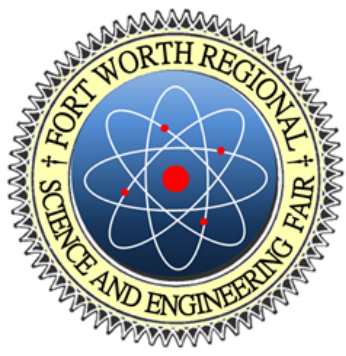
**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Emily Troutman





# 2022 Fort Worth Regional Science and Engineering Fair

## Lockheed Martin Aeronautics Company

---

**2nd Place:** Correlation Relating Morphology and Optoelectronic Properties of Microscale Zinc Oxide for Use in Antibacterial Assays

**Project ID:** 178381

**School:** Harmony School Of Innovation Middle School

**Division:** Junior

**Category:** Engineering: Materials & Bioengineering

**Students:** Pavan Ahluwalia

**3rd Place:** What fruit juice makes milk curdle the fastest?

**Project ID:** 171072

**School:** Graham Junior High School

**Division:** Junior

**Category:** Chemistry

**Students:** Alejandra Castillo

**3rd Place:** Using Three Natural Polymers to Create An Efficient Hybrid Bioplastic

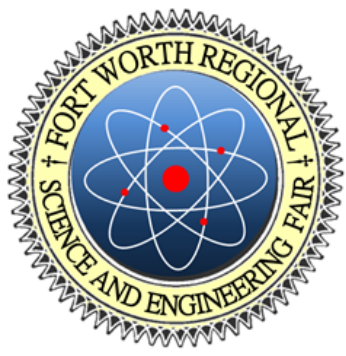
**Project ID:** 180991

**School:** Granbury High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Scout Skaggs



# 2022 Fort Worth Regional Science and Engineering Fair

## Lockheed Martin Leadership Association

---

**1st Place:** The Analysis of the Synergistic Effects of Curcumin and Light Therapy in Wound Healing of *D. tigrina*

**Project ID:** 160753

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Animal Sciences

**Students:** Mehreen Chowdhury

**1st Place:** AC Condensate Line Open

**Project ID:** 165180

**School:** Colleyville Middle School

**Division:** Junior

**Category:** Earth & Planetary Sciences

**Students:** Daniel Thomas

**2nd Place:** Candy Challenge: The Ability of Young Children to Distinguish Candy and Medicine

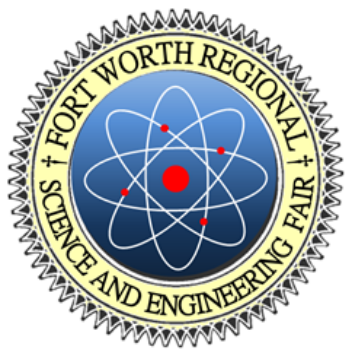
**Project ID:** 157171

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Behavioral & Social Sciences

**Students:** Jillian Lim



# 2022 Fort Worth Regional Science and Engineering Fair

## Lockheed Martin Leadership Association

---

**2nd Place:** Using a Yeast-2-Hybrid Screen to Identify Interactors of RGPA1: A Gene That Induces Plant Defense Responses Against Green Peach Aphid (GPA) in *Arabidopsis thaliana*

**Project ID:** 171232

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Plant Sciences

**Students:** Shreya Nair, Siddhartha Shah

**3rd Place:** Does listening to music affect math skills?

**Project ID:** 157037

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Behavioral & Social Sciences

**Students:** Nate Fabriga

**3rd Place:** Evaluating Psychological Principles through User Experience Design

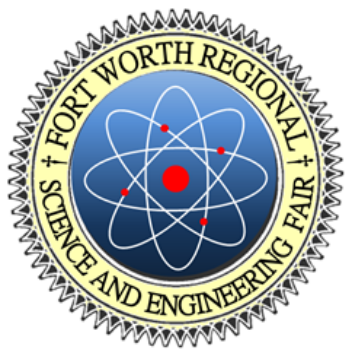
**Project ID:** 162093

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Behavioral & Social Sciences

**Students:** Jenna Hassan



# 2022 Fort Worth Regional Science and Engineering Fair

## Mu Alpha Theta

---

**1st Place:** Optimizing Micro-Computer Architecture in the Arithmetic Logic Unit

**Project ID:** 174949

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Emily Troutman

**2nd Place:** A Graph-Theoretic Approach Using Monte Carlo Simulations to Model the Progression of Mental Health in Social Networks

**Project ID:** 174431

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Ria Garg, Nora Xiao

**3rd Place:** Improving the Grocery Store Shopping Experience for the Older Population

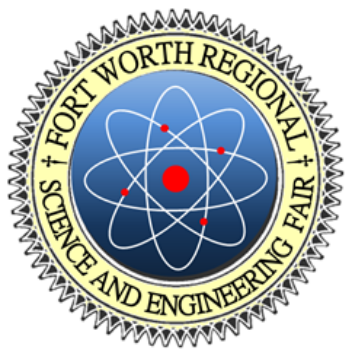
**Project ID:** 169084

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Daisy Gan, Manya Trisha



# 2022 Fort Worth Regional Science and Engineering Fair

## NASA Earth System Science Award

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**1st Place:** The Planet Needs Our Kelp! The Analysis of the Carbon Sequestration Potential of Macroalgae

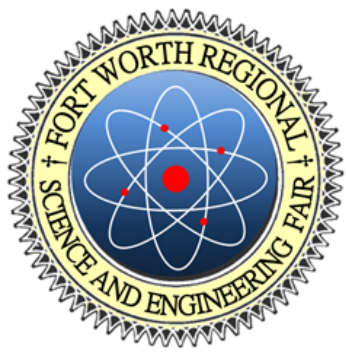
**Project ID:** 161319

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Trinity Nguyen



# 2022 Fort Worth Regional Science and Engineering Fair

## National Geographic Award

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**1st Place:** The Comparative Study Assessing the Effect of Chinese and European American Culture on Autobiographical Remembering.

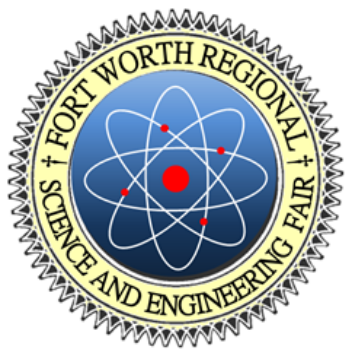
**Project ID:** 160756

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Behavioral & Social Sciences

**Students:** Kate Netzer



# 2022 Fort Worth Regional Science and Engineering Fair

## National Oceanic & Atmospheric Administration

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**1st Place:** Testing the efficiency of varying renewable energy sourcesâ€™ rates of power conversion.

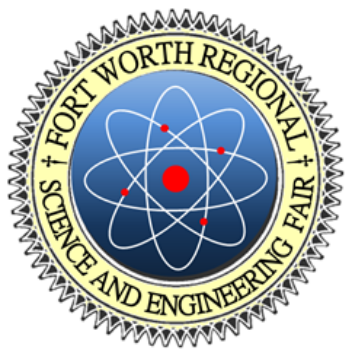
**Project ID:** 175459

**School:** Summit International High School

**Division:** Senior

**Category:** Environmental Management & Sciences

**Students:** Tabitha Hare



# 2022 Fort Worth Regional Science and Engineering Fair

## Native Plant Society Award

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**1st Place:** The Analysis of the Efficacy of Pinus Elliottii and Pinus Taeda in Water Filtration

**Project ID:** 160748

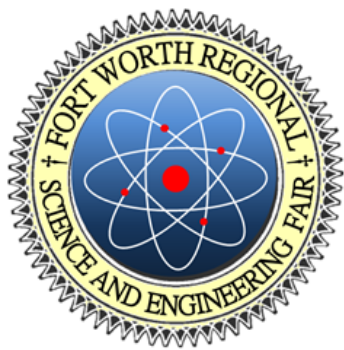
**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Plant Sciences

**Students:** Clint Stalnaker





# 2022 Fort Worth Regional Science and Engineering Fair

## Office of Naval Research - U.S. Navy and U.S Marine Corps

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**1st Place:** Evaluating the Effects of Nutrient Starvation in Chlorella Algae to Enhance Biofuel Efficiency

**Project ID:** 160752

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Plant Sciences

**Students:** Carson Dutton

**1st Place:** Depolymerization of PET Plastics

**Project ID:** 163737

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** William Chen

**1st Place:** Breaking Chemical Bonds by Force: A Computational Investigation of Metal C-H Interaction Under High Pressure

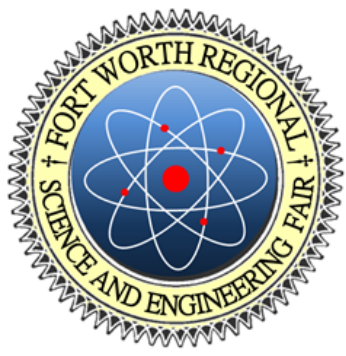
**Project ID:** 170100

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Chemistry

**Students:** Carly Yang



# 2022 Fort Worth Regional Science and Engineering Fair

## Office of Naval Research - U.S. Navy and U.S Marine Corps

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**1st Place:** Curb Hopper

**Project ID:** 170628

**School:** Graham Junior High School

**Division:** Junior

**Category:** Engineering: Materials & Bioengineering

**Students:** Caden Joy

**1st Place:** Homemade Battery

**Project ID:** 177104

**School:** Trivium Academy

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Tyler Clark

**1st Place:** Do more sunny places in Texas have healthier people?

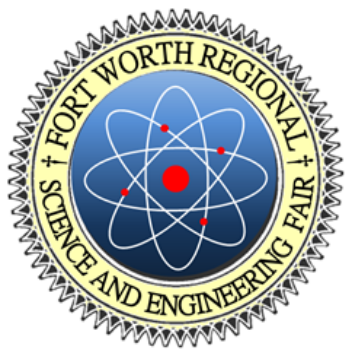
**Project ID:** 181120

**School:** Irma Marsh Middle School

**Division:** Junior

**Category:** Medicine & Health Sciences

**Students:** Melina Gutierrez



# 2022 Fort Worth Regional Science and Engineering Fair

## Ricoh Sustainable Development Award

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**1st Place:** Abraham Model Description of the Solubilising Properties of the Isopropyl Acetate Organic Mono-solvent

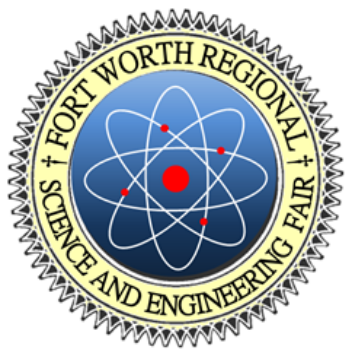
**Project ID:** 175000

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Environmental Management & Sciences

**Students:** Sophia Cai



# 2022 Fort Worth Regional Science and Engineering Fair

## Society of Allied Weight Engineers - Texas Chapter

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**1st Place:** Building Stick Bridges

**Project ID:** 154898

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Engineering: Materials & Bioengineering

**Students:** Micayla Sustaita, Alondra Nye-Colon

**2nd Place:** Need For Speed

**Project ID:** 156737

**School:** Liberty Christian School MS

**Division:** Junior

**Category:** Engineering: Electrical & Mechanical

**Students:** Trey Stickl

**3rd Place:** Mass Spectrometry Proteomics

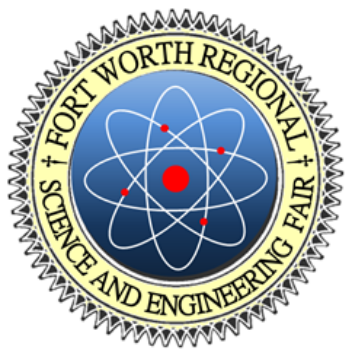
**Project ID:** 170806

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Computer Science

**Students:** Jonathan He, Olivia Liu



# 2022 Fort Worth Regional Science and Engineering Fair

## Society of Flight Test Engineers - North Texas Chapter

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**1st Place:** The Shape of an Airfoil

**Project ID:** 154891

**School:** St. Elizabeth Ann Seton Catholic Middle School

**Division:** Junior

**Category:** Energy & Transportation

**Students:** Sophia Hooper

**1st Place:** Autonomously Controlling Unmanned Aerial Vehicles (UAVs) Through Machine Vision Algorithms

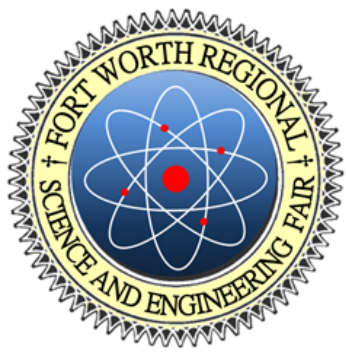
**Project ID:** 170107

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Belinda Dong, Adam Chen



# 2022 Fort Worth Regional Science and Engineering Fair

## U.S. Agency for International Development

**1st Place:** Abraham Model Description of the Solubilising Properties of the Isopropyl Acetate Organic Mono-solvent

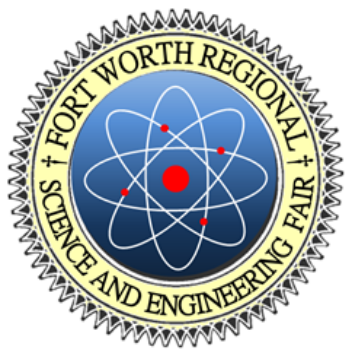
**Project ID:** 175000

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Environmental Management & Sciences

**Students:** Sophia Cai



# 2022 Fort Worth Regional Science and Engineering Fair

## U.S. Stockholm Junior Water Prize

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**1st Place:** The Analysis of the Efficacy of Pinus Elliottii and Pinus Taeda in Water Filtration

**Project ID:** 160748

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Plant Sciences

**Students:** Clint Stalnaker

**1st Place:** The Optimization of the Ratio of Ferrofluid to a Lead Solution for Water Filtration

**Project ID:** 160755

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Chemistry

**Students:** Ashlyn Wright

**1st Place:** Evaluating the Efficacy of Microplastic Filtration from Gray Water

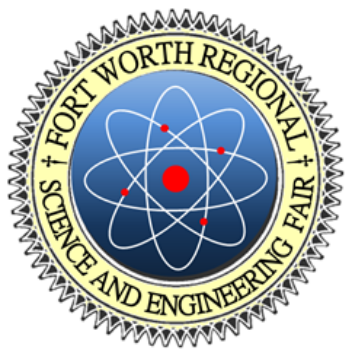
**Project ID:** 162535

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Rachel Zuercher



# 2022 Fort Worth Regional Science and Engineering Fair

## US Air Force

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**1st Place:** Novel-DTI - A Machine Learning Pipeline Created to Predict Drug-Target Interactions for Large-Scale Drug Repurposing and Drug Discovery using Multiplex, Heterogeneous Networks

**Project ID:** 170334

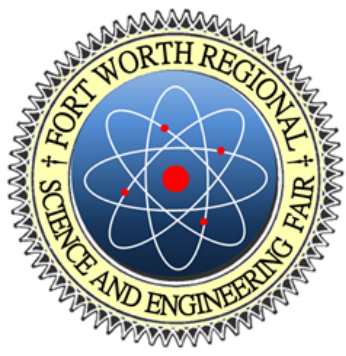
**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Computer Science

**Students:** Shreya Amalapurapu





# 2022 Fort Worth Regional Science and Engineering Fair

## US Metric Association

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**1st Place:** The Application of Geometric Optics and Photosensitivity in Detection of Water Soluble Heavy Metal Ions

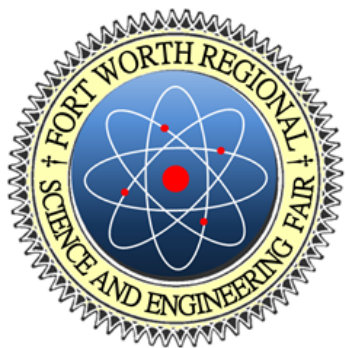
**Project ID:** 163735

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Physics & Astronomy

**Students:** Ayush Bindal



# 2022 Fort Worth Regional Science and Engineering Fair

## UTA College of Science

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**1st Place:** Breaking Chemical Bonds by Force: A Computational Investigation of Metal C-H Interaction Under High Pressure

**Project ID:** 170100

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Chemistry

**Students:** Carly Yang

**2nd Place:** Optimizing Micro-Computer Architecture in the Arithmetic Logic Unit

**Project ID:** 174949

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Mathematical Sciences

**Students:** Emily Troutman

**3rd Place:** Using a Yeast-2-Hybrid Screen to Identify Interactors of RGPA1: A Gene That Induces Plant Defense Responses Against Green Peach Aphid (GPA) in *Arabidopsis thaliana*

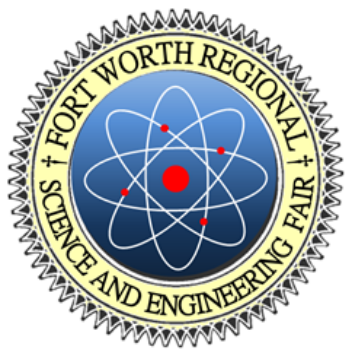
**Project ID:** 171232

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Plant Sciences

**Students:** Shreya Nair, Siddhartha Shah



# 2022 Fort Worth Regional Science and Engineering Fair

## UTA Provost Office

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**1st Place:** Novel-DTI - A Machine Learning Pipeline Created to Predict Drug-Target Interactions for Large-Scale Drug Repurposing and Drug Discovery using Multiplex, Heterogeneous Networks

**Project ID:** 170334

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Computer Science

**Students:** Shreya Amalapurapu

**2nd Place:** SIDS Mattress: Determining Infant Physiological Parameters with PVDF Sensors and Microphones to Detect SIDS with OCC Modeling

**Project ID:** 179867

**School:** The Oakridge School

**Division:** Senior

**Category:** Engineering: Materials & Bioengineering

**Students:** Eshan Singhal

**3rd Place:** Microfluidic Fabrication of Photonic Microlasers

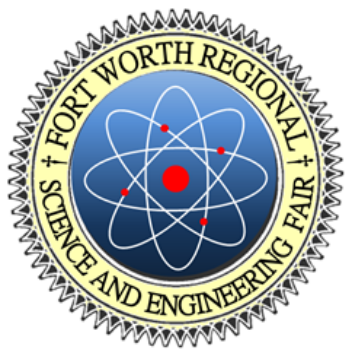
**Project ID:** 169925

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Jayanth Pandit, Bhanuprakash Kunam



# 2022 Fort Worth Regional Science and Engineering Fair

## Water Environment Association of Texas

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**1st Place:** Evaluating the Efficacy of Microplastic Filtration from Gray Water

**Project ID:** 162535

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Earth & Planetary Sciences

**Students:** Rachel Zuercher

**1st Place:** Drip, Drip, Drip

**Project ID:** 179441

**School:** Young Women's Leadership Academy

**Division:** Junior

**Category:** Earth & Planetary Sciences

**Students:** Ehder Wee

**2nd Place:** The Optimization of the Ratio of Ferrofluid to a Lead Solution for Water Filtration

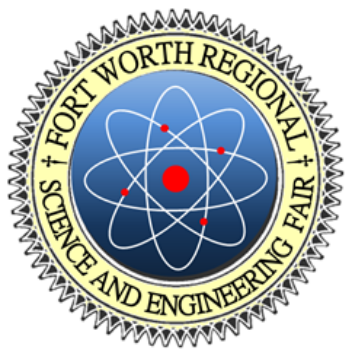
**Project ID:** 160755

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Chemistry

**Students:** Ashlyn Wright



# 2022 Fort Worth Regional Science and Engineering Fair

## Water Environment Association of Texas

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**2nd Place:** Water filtration with rocks and minerals

**Project ID:** 180905

**School:** Harmony Academy - Euless Middle School

**Division:** Junior

**Category:** Environmental Management & Sciences

**Students:** Uzair Nawaz

**3rd Place:** The Analysis of the Efficacy of Pinus Elliottii and Pinus Taeda in Water Filtration

**Project ID:** 160748

**School:** Colleyville Heritage High School

**Division:** Senior

**Category:** Plant Sciences

**Students:** Clint Stalnaker

**3rd Place:** Which Filtration Material Leads to the Best Drinking Water?

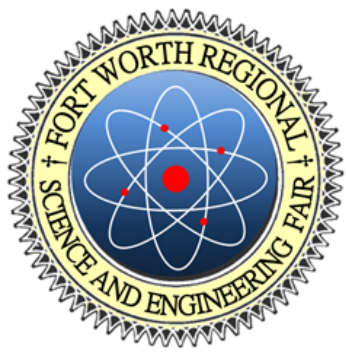
**Project ID:** 180769

**School:** Harmony Academy - Euless Middle School

**Division:** Junior

**Category:** Environmental Management & Sciences

**Students:** Fatima Sowe



# 2022 Fort Worth Regional Science and Engineering Fair

## Yale Science and Engineering Association

**1st Place:** Analyzing and Identifying Optimal Meshing Structures For Laminar Flows in Various Pipes

**Project ID:** 173272

**School:** Texas Academy Of Mathematics And Sciences HS

**Division:** Senior

**Category:** Engineering: Electrical & Mechanical

**Students:** Vishal Sathish