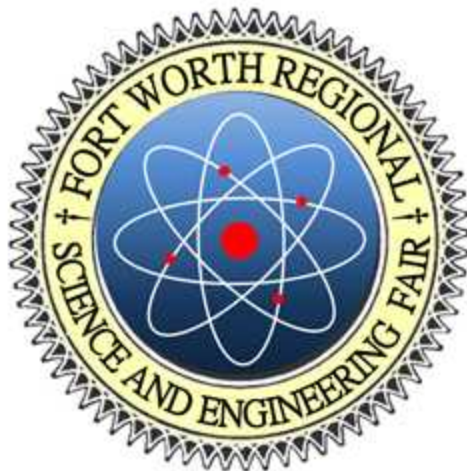
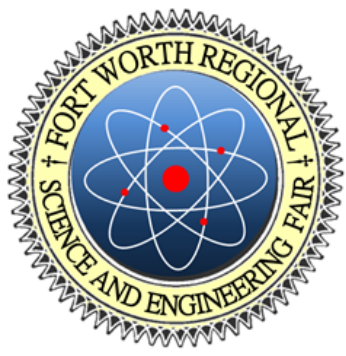




# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Awards Senior Division





# 2022 Fort Worth Regional Science and Engineering Fair

## Best Of Fair Senior Division

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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

**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

**Category:** Engineering: Materials & Bioengineering

**Students:** Eshan Singhal

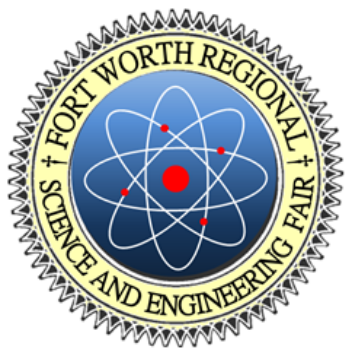
**3rd Place:** Microfluidic Fabrication of Photonic Microlasers

**Project ID:** 169925

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

**Category:** Engineering: Electrical & Mechanical

**Students:** Jayanth Pandit, Bhanuprakash Kunam



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## Best Of Fair Senior Division

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**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

**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

**Category:** Mathematical Sciences

**Students:** Emily Troutman

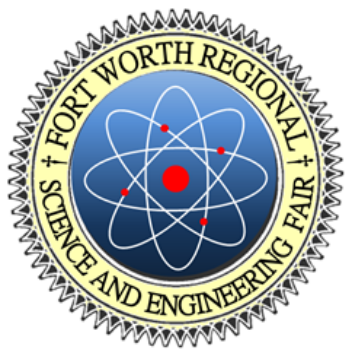
**6th Place:** Using a Yeast-2-Hybrid Screen to Identify Interactors of RGPA1: A Gene That Induces Plant Defense Responses Against Green Peach Aphid (GPA) in *Arabidopsis thaliana*

**Project ID:** 171232

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

**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

**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

**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

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

**Students:** Anay Gupta