Thermo Fisher Scientific

# Junior Innovators Challenge

A program of Society for Science

## Thermo Fisher Scientific Junior Innovators Challenge 2025

# TOP 300

# Thermo Fisher Scientific Junior Innovators Challenge

The Thermo Fisher Scientific Junior Innovators Challenge (JIC), a program of Society for Science, is the premier national middle school science and engineering research competition, inspiring the next generation of scientists, engineers and innovators who will solve the world's most intractable problems. We believe middle school is a critical time when young people identify their personal passions, and if they discover an interest in Science, Technology, Engineering and Math (STEM), they can be inspired to follow those passions by pursuing STEM courses and learning experiences through high school and beyond.

As the only middle school STEM competition that leverages Society-affiliated science fairs as a critical component of the STEM talent pipeline, the Thermo Fisher JIC draws from the top 10% of 6th, 7th and 8th grade projects entered in Society-affiliated fairs around the country. After submitting the online application, the Top 300 Junior Innovators are selected by a panel of scientists, engineers and educators from around the nation.

The Top 300 Junior Innovators are honored for their work with a $125 cash prize through the Society's partnership with the U.S. Department of Defense as a member of the Defense STEM Education Consortium (DSEC). The Top 300 Junior Innovators also receive a prize package that includes an award ribbon, a certificate of accomplishment, a backpack, a decal, a one-year subscription to Science News Explores magazine and a one-year subscription to Wolfram|Alpha Notebook Edition, courtesy of Wolfram Research. In recognition of the role that teachers play in the success of their students, the designated teacher of each Top 300 Junior Innovator will also receive a Thermo Fisher JIC tote bag and a one-year subscription to Science News Explores magazine.

From the Top 300 Junior Innovators, 30 finalists are announced on September 17. Finalists will present their research projects and compete as teams in STEM challenges to demonstrate their skills in critical thinking, collaboration, communication and creativity at Thermo Fisher JIC Finals Week. Top awards include a $25,000 grand prize, stipends for STEM summer camps and more.

**Thermo Fisher Scientific and Society for Science thank the following partners for their support of the 2025 Thermo Fisher JIC:**

- Broadcom Foundation
- DoD STEM
- Robert Wood Johnson Foundation
- The Lemelson Foundation
- TIES
- Wolfram Research
- Science News Explores
- Smithsonian Environmental Research Center
- Society for Science-affiliated Regional and State Science and Engineering Fairs
- Families, teachers and mentors of the nearly 2,000 Thermo Fisher JIC entrants

# Top 300 Junior Innovators

Students are listed in order by school state, fair code, last name and school name based on information they provided. Students listed under a regional fair may also have qualified through their state fair, but are only listed under their regional fair in this book. Students conducting research in teams must apply individually and are evaluated on their written application. The grade listed for each student is from spring 2025.

Visit **findafair.societyforscience.org** to look up Thermo Fisher Scientific JIC-affiliated fairs by state.

**A # next to the name indicates previous selection as one of the Top 300 in the Society's middle school competition.**

## ARIZONA

### USAZ03 Southern Arizona Research, Science and Engineering Fair

**MCGILL, LUCA (GRADE 8)**
Tucson, Arizona
Emily Gray Junior High School
**ALTO-$CO_2$: Low-Cost Drone-Based Atmospheric Carbon Dioxide Monitoring Exploring $CO_2$ Levels Across Urban, Suburban and Rural Areas in Southern Arizona**

**SMITH, SIMONE (GRADE 8)**
Tucson, Arizona
Saint Cyril of Alexandria School
**Catching Deadly Butterflies**

### USAZ50 Arizona Science and Engineering Fair

**LAKSHMINARASIMHAN, AKSHAY (GRADE 7)**
Scottsdale, Arizona
BASIS Scottsdale
**Exploring the Interplay Between Earth's Magnetic Field, Solar Activity, Climate Variability and Human Settlements (1750–2024)**

# ARKANSAS

## USAR05 Central Arkansas Regional Science and Engineering Fair

**WANG, PERICLES (GRADE 7)**
Little Rock, Arkansas
Pinnacle View Middle School
**Biases and Stereotypes of Large Language Models Toward Social Groups**

# CALIFORNIA

## USCA01 Orange County Science and Engineering Fair

**CHEN, MAX (GRADE 8)**
Irvine, California
Sierra Vista Middle School
**Turning Biodiesel Waste Into Watts: Optimizing Oxygen Concentrations for Glycerol-Powered Microbial Fuel Cells**

**GANDHI, MOHAN (GRADE 7)**
Anaheim, California
Fairmont Private School — Anaheim Hills Campus
**“Sole-Utions in Lattice” — Lattice Structures vs. Foam: Which Structure Gives the Best Support for Athletes and Diabetic Patients?**

**KU, MAXIMUS JOSEPH (GRADE 8)**
Anaheim, California
Fairmont Private School — Anaheim Hills Campus
**Improving the Efficiency of Triboelectric Nanogenerators**

**MURASE, TOKIYA (GRADE 7)**
Irvine, California
Lakeside Middle School
**AI Mildew Detector**

**NUNES, ADEN (GRADE 7)**
San Juan Capistrano, California
Fairmont Private School — San Juan Capistrano
**Analyzing the Impact of Genetic Mutations and Amino Acid Properties on CFTR Protein Pathogenicity in Cystic Fibrosis**

**SOLHPOUR, SAM DANIEL (GRADE 8)**
Newport Beach, California
Corona Del Mar Middle School
**Forecasting Renewable Energy Production Based on Historical Weather Data in California: Predictive Analysis Using Regression Modeling**

**STORY, GRANT (GRADE 8)**
San Juan Capistrano, California
Fairmont Private School — San Juan Capistrano
**Hydroelectric Dams: Gravity and Water Pressure Effects on Electricity Generation**

**TRAN, ALICE NGOC (GRADE 8)**
Westminster, California
Warner Middle School
**The Effects of a Magnetic Field on *Raphanus sativus* Plant Growth**

## USCA02 Los Angeles County Science and Engineering Fair

**CHUNG, SEUNGAH (GRADE 8)**
Beverly Hills, California
Beverly Vista Middle School
**Investigating Spatial Memory Formation in Harvester Ants Through Operant Conditioning**

**HUANG, HANNAH YUCHEN (GRADE 8)**
Rancho Palos Verdes, California
Ridgecrest Intermediate School
**Analyzing Type A Influenza Genomes Using Fractal Patterns**

**INTERIANO, MILA (GRADE 8)**
Sierra Madre, California
Sierra Madre Middle School
**Too Hot To Handle: Space Exploration**

**IYER, SHAY (GRADE 8)**
Rancho Palos Verdes, California
Miraleste Intermediate School
**Disinfection and Reuse of Disposable Isolation PPE Gowns in Medical Practice: An Innovative Solution To Minimize Medical Waste Pollution**

**KURC, MAYA ALEXANDRA (GRADE 8)**
Los Angeles, California
The Archer School for Girls
**Fit Flies: How Does Exercise Improve Motor Symptoms in *Drosophila* With the LRRK2 Gene Mutation Leading to Parkinson's Disease?**

**LEONARD, JERON (GRADE 8)**
North Hollywood, California
The Science Academy STEM Magnet
**Making Different Types of Filaments From Recycled Plastics To Reduce Carbon Footprints and Measuring Their Properties**

**LIANG, PATRICK (GRADE 8) #**
Tarzana, California
Portola Highly Gifted Magnet Middle School
**Analyzing LINE-1 Expression in Relation to SARS-CoV-2 Infection Severity**

**SEGAL, MARK (GRADE 8)**
Palos Verdes Estates, California
Palos Verdes Intermediate School
**Use of Neodymium Magnets To Enhance the Yield of *Solanum tuberosum* (Potatoes)**

**SHIMPI, ATHARVA ASHWIN (GRADE 8)**
North Hollywood, California
The Science Academy STEM Magnet
**Making Different Types of Filaments From Recycled Plastics To Reduce Carbon Footprints and Measuring Their Properties**

**UVARAJ, ANISH (GRADE 6)**
Valencia, California
Oak Hills Elementary School
**Smoke Precipitators: Enhancing Air Quality by Reducing Particulate Matter**

## USCA03 Fresno County Science Fair

**AGRAWAL, ARVIN (GRADE 8)**
Fresno, California
Granite Ridge Intermediate School
**Advancing Sustainable Agriculture: Development of TriFusion BioBoost Fertilizer Using *Azolla,* Mycorrhizae and *Rhizobium* as an Eco-Friendly Alternative to Synthetic Fertilizer for Increasing Garden Bean Biomass Yield**

**FENG, ALICE (GRADE 7)**
Fresno, California
Granite Ridge Intermediate School
**Transforming Waste Into Value: The Impact of Grape Pomace Variety and Extraction Parameters on Grape Seed Oil Yield and Physicochemical Properties**

## USCA04 Sacramento Regional Science and Engineering Fair

**HALLER, LEILA HUE (GRADE 8)**
Rocklin, California
Western Sierra Collegiate Academy
**A Bright Idea: UV Intensity**

**NGUYEN, EVELYN QUYNH TIEN (GRADE 8)**
Elk Grove, California
Toby Johnson Middle School
**A Heated Transformation of Plastic Bags Into Textiles**

## USCA05 Greater San Diego Science and Engineering Fair

**BRUM, CHARLES (GRADE 8)**
Temecula, California
Elite Academic Academy
**StarSync: Local Orientation Synchronization Device**

**HU, ETHAN (GRADE 8)**
La Jolla, California
The Bishop's School
**Low Cost Portable Braille Embosser for Education**

**KATTAMURI, UMA (GRADE 6)**
San Diego, California
Oak Valley Middle School
**Effect of Increased $CO_2$ Levels on pH and Stomatal Density of CAM Plant *Kalanchoe blossfeldiana***

**MERTEN, NIALL (GRADE 6)**
Encinitas, California
The Rhoades School
**Improving Solar Panel Efficiency**

**XU, ANDREW (GRADE 7)**
La Jolla, California
The Bishop's School
**Low-Cost Portable Braille Embosser for Education**

## USCA07 Synopsys Silicon Valley Science and Technology Championship presented by the Santa Clara Valley Science and Engineering Fair Association

**BLANCO-SARMIENTO, XIMENA (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Enhancing the Sustainability of Data Center Cooling and Energy Supply Systems**

**FAN, ZOE SIYI (GRADE 8)**
San Jose, California
The Harker School — Middle School
**Investigating Curcumin's Potential To Delay Alzheimer's Onset Using Genetically Modified *Drosophila melanogaster* Models**

**JAWAD, SAFIYA SYEDA (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Testing Biodegradable Alternatives of Plastic To Determine the Best Material for Plastic Bags**

**JIN, SHUWEN (GRADE 8)**
Sunnyvale, California
The King's Academy
**Investigating Curcumin's Potential To Delay Alzheimer's Onset Using Genetically Modified *Drosophila melanogaster* Models**

**KENKRE, RAHINI (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Enhancing the Sustainability of Data Center Cooling and Energy Supply Systems**

**LAN, ZOOEY (GRADE 8)**
San Jose, California
The Harker School — Middle School
**A Novel AI Approach To Analyze the Cardiovascular Effects of Artificial Sweeteners Using *Daphnia magna***

**LAU, AARON (GRADE 8)**
San Jose, California
The Harker School — Middle School
**Comparison of Supplements and Pesticides on Silkworm Growth and Productivity**

**LEE, ANYA (GRADE 8)**
San Jose, California
The Harker School — Middle School
**A Novel AI Approach To Analyze the Cardiovascular Effects of Artificial Sweeteners Using *Daphnia magna***

**LEE, HANNA (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Testing Biodegradable Alternatives of Plastic To Determine the Best Material for Plastic Bags**

**SCILINGO, MIA CARINA (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Testing Biodegradable Alternatives of Plastic To Determine the Best Material for Plastic Bags**

**SRIVASTAVA, SAKSHAM (GRADE 8)**
Palo Alto, California
Challenger School
**StarQuest: A Celestial GPS**

**SUN, MAGGIE (GRADE 8)**
San Jose, California
Harker School
**Transforming Food Waste Into Sustainable Biodegradable Packaging**

**TEJURA, JIYA (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Enhancing the Sustainability of Data Center Cooling and Energy Supply Systems**

**WEYN, ETHAN (GRADE 8)**
San Jose, California
Harker School
**Comparison of Supplements and Pesticides on Silkworm Growth and Productivity**

**YUAN, SERENA (GRADE 8) #**
San Jose, California
The Harker School — Middle School
**Full-Circle Biodegradable Plastics: Turning Fruit Peel Waste Into Recyclable Packaging That Composts Into Biofertilizer**

## USCA09 Alameda County Science and Engineering Fair

**AGADI, ICCHA UMESH (GRADE 8)**
Dublin, California
Wells Middle School
**Advancing Parkinson's Diagnosis: A Device for Early Symptom Detection**

**ARUN KUMAR, BHADRESH KUMAR (GRADE 8)**
Dublin, California
Wells Middle School
**Advancing Parkinson's Diagnosis: A Device for Early Symptom Detection**

**BAUL, AYANA (GRADE 8)**
Fremont, California
Stratford School — Fremont Osgood Campus
**Blue Horizons: Predicting and Preventing Algae Blooms**

**HALDAR, ANISHA (GRADE 7)**
Fremont, California
Stratford School — Fremont Osgood Campus
**Wall of Water: Fire-Resistant Panels To Defend Communities From Wildfires**

**LIU, LEO (GRADE 7)**
Newark, California
Challenger School — Ardenwood
**Shake It Off: Effect of Different Bracing Structures on Collapse Resistance in Earthquakes**

**LU, CYNTHIA (GRADE 6)**
Newark, California
Challenger School — Ardenwood
**Tilted for Power: Unleashing Solar Energy Through Angles**

**MAGESH, LOUKYA (GRADE 6)**
Dublin, California
Fallon Middle School
**Atmospheric Water Harvesting Using Smart Hydrogels for Sustainable Water Solutions**

**PANDEY, ABHIGYA (GRADE 6)**
Fremont, California
Basis Independent Fremont
**Arduino-Based Smart Home Automation: Enhancing Security, Energy Efficiency and Weather Response**

**PANDIT, YOOKTA (GRADE 8)**
Dublin, California
The Quarry Lane School
**Reading the Brain: Using MRIs for Early Detection of Dyslexia**

**PRASANNA, PIYUSH (GRADE 6)**
Dublin, California
Fallon Middle School
**Hydrogels: Biodegradable Alternative to Plastic Food Packaging**

**SRIVATS, RISHAB (GRADE 7)**
Fremont, California
John Horner Junior High School
**Badminton Companion**

**TELUKUNTLA, ARUSHI (GRADE 7)**
Fremont, California
Stratford School — Fremont Osgood Campus
**Wall of Water: Fire-Resistant Panels To Defend Communities From Wildfires**

**WU, SAVANNAH (GRADE 7) #**
Newark, California
Challenger School — Ardenwood
**Impact of Hydrogel Concentration on Plant Growth in Soil**

## USCA13 San Bernardino, Inyo, Mono (SIM) Science and Engineering Fair

**GARG, AANYA (GRADE 6)**
Chino, California
Edwin Rhodes Elementary School
**Bioplastics: Pollution Solution. Can Bioplastics Be Successfully Used for Home Applications?**

**LEE, STEPHANIE (GRADE 7)**
Chino Hills, California
Canyon Hills Junior High School
**The Second Life of Crop Waste**

## USCA15 Riverside County Science and Engineering Fair

**GROVER, HENRY (GRADE 7)**
Riverside, California
Riverside STEM Academy
**Removing Microplastics From Water by Using Household Materials as Filter Membranes**

**JANG, HANNAH (GRADE 8)**
Hemet, California
Western Center Academy
**Stent Designs for Brain Aneurysm Rupture Prevention**

**ZHOU, VIENNA (GRADE 7) #**
Corona, California
El Cerrito Middle School
**Can We Solve HIV/Aids? Using Python To Determine the Process of Eradicating Latent Viral Reservoirs of HIV From the Body**

## USCA16 Kern County Regional Science Fair

**GOLDBERG, ALEKHA (GRADE 6)**
Pine Mountain Club, California
Peak to Peak Mountain Charter School
**Planarian, Heal Thyself! The Effect of Electricity on the Rate of Planarian Regeneration for a Novel Approach to Human Healing**

## USCA50 California Science & Engineering Fair

**BI, AMANDA CAMELLIA (GRADE 6)**
La Jolla, California
La Jolla Country Day School
**The Flexible, Reusable Sound Insulator**

**MITTENDORFF, KATHERINE CAROL (GRADE 7)**
Orinda, California
Orinda Intermediate School
**An Experiment To Design an Optimal Wind Turbine Using 3D-Printed Models**

**MONPAYS, EVA (GRADE 7)**
La Jolla, California
San Diego French-American School
**The Coastal Cruiser: A Lightweight and Autonomous DIY Robot To Fight Plastic Pollution**

**NAGORI, AKHIL (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Visionary: AI Glasses for Real-Time Text-to-Audio Transcription To Help Visually Impaired Students**

**PRADHAN, ANISHA (GRADE 8)**
San Francisco, California
Saint Monica School
***Daphnia*: Climate Crusaders**

**SUN, EVANN (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Visionary: AI Glasses for Real-Time Text-to-Audio Transcription To Help Visually Impaired Students**

**SWIGART, JULIANNA (GRADE 7)**
La Jolla, California
San Diego French-American School
**DIY Beach-Cleaning Robot**

**WANG, CHRISTINE (GRADE 7)**
San Jose, California
The Harker School — Middle School
**Peel To Purify: An Innovative Fruit Waste-Based Solution for Contaminated Water Treatment**

**YEN, LUCAS SHENGWEN (GRADE 8)**
Santa Clara, California
Juan Cabrillo Middle School
**Visionary: AI Glasses for Real-Time Text-to-Audio Transcription To Help Visually Impaired Students**

## USCA78 Irvine Unified School District Fair

**KWON, RENE (GRADE 7)**
Irvine, California
Sierra Vista Middle School
**Redefining Antimicrobial Treatment: A Study of Natural and Synthetic Antibiotics Against *Staphylococcus epidermidis* Biofilms To Combat Antibiotic Resistance**

**WUPPALAPATI, MEGHANA (GRADE 8) #**
Irvine, California
Beacon Park School
**Green Goodness: Testing the Efficacy of *Azadirachta indica* vs. *Moringa oleifera* in Metabolizing Excess Galactose Caused by Galactosemia**

## USCA80 San Mateo County Office of Education STEM Fair

**BEASLEY, ANNA (GRADE 8)**
Menlo Park, California
Synapse School
**Mindsets in Math: The Impact of Training on Self-Concept and Math Learning**

**BURKE, JOSHUA (GRADE 8)**
Menlo Park, California
Synapse School
**Mindsets in Math: The Impact of Training on Self-Concept and Math Learning**

**FOX, VIKRAM (GRADE 8)**
Portola Valley, California
Corte Madera School
**Using Machine Learning To Solve Complex Physics: A Proof-of-Concept Experiment Using Drag Force and Terminal Velocity**

**POJUNAS, BRENDAN (GRADE 7)**
San Carlos, California
Saint Charles School
**Application of Low-Cost Drones for Preventative and Active Firefighting Support Roles**

**WANG, BOWEN (GRADE 6)**
San Carlos, California
Central Middle School
**Breakwaters: Block by Block**

## COLORADO

### USCO50 Colorado Science and Engineering Fair

**MANSHAD, OMAR (GRADE 8)**
Aurora, Colorado
Crescent View Academy
**Inclusive Robotics: Building a Safe Robotic Arm for Multimodal Non-Visual Table-Top Interactions**

**SANDRIDGE, VIOLET (GRADE 8)**
Boulder, Colorado
Summit Middle Charter School
**Radiation Resilience: Evaluating Photostability in Natural and Synthetic Sunscreens**

## CONNECTICUT

### USCT50 Connecticut Science & Engineering Fair

**CAHILL, CLARA (GRADE 8)**
Greenwich, Connecticut
Central Middle School
**Development of a Thyme Oil-in-Hydromed Wearable Anklet for the Natural, Effective Repelling of Ticks**

**CHOUDHARY, RAJSI (GRADE 8)**
Riverside, Connecticut
Eastern Middle School
**Fabrication of a Biodegradable, Nutrient-Rich, Orange Peel-Loaded Hydrogel for Thermally-Programmed Release of Water To Maintain Soil Moisture**

**GALVEZ, STEPHANIE (GRADE 8)**
Greenwich, Connecticut
Sacred Heart Greenwich
**Testing the Strength, Flexibility and Biodegradability of a Watermelon Rind-Based Bioplastic**

**NORFUL, BENNETT (GRADE 7)**
Wilton, Connecticut
Middlebrook Middle School
**Cell Shield: Investigating Materials To Block Non-Ionizing Radiofrequency Radiation in Common Cell Phones**

**ROKKAM, KABIR (GRADE 8)**
Wilton, Connecticut
Middlebrook Middle School
**A Bone To Pick With Ocean Acidification: Bone Meal, a Substrate That Supports Phytoplankton Growth and Helps Reduce Ocean Acidification**

**SHIUE, ALEX (GRADE 8)**
Wilton, Connecticut
Middlebrook Middle School
**The Bone To Pick With Ocean Acidification: Bone Meal, a Substrate That Supports Phytoplankton Growth and Helps Reduce Ocean Acidification**

**UKPERAJ, BONNIE MIKAELA (GRADE 8)**
Greenwich, Connecticut
Sacred Heart Greenwich
**Testing the Strength, Flexibility and Biodegradability of a Watermelon Rind-Based Bioplastic**

# FLORIDA

## USFL05 Thomas Alva Edison Kiwanis Science and Engineering Fair

**DACANAY, BELLA (GRADE 7)**
Port Charlotte, Florida
Charlotte Preparatory School
**Making Sense of Scents: Do Men or Women Have a Better Sense of Smell?**

## USFL07 East Panhandle Science and Engineering Fair

**ALLEN, IAN (GRADE 8)**
Valparaiso, Florida
Okaloosa STEMM Academy
**SAND — Simulation of Absorption in Nanosized Quantum Dots**

## USFL09 Broward Regional Science & Engineering Fair

**COLARTE DELGADO, ELLA MARIA (GRADE 7)**
Plantation, Florida
American Heritage School
**The Effects of Music Therapy on Patients That Suffer From Traumatic Brain Injury Using *Drosophila melanogaster* as a Model Organism**

**GILBERT, EVAN (GRADE 8)**
Fort Lauderdale, Florida
University School
**Speech Jammer — Testing Cognitive Impairment Using Delayed Auditory Feedback**

## USFL15 South Florida Science and Engineering Fair

**AFKHAMI SEARCY, ELIZABETH ALLENIA (GRADE 6)**
Palmetto Bay, Florida
Southwood Middle School
**Some Like It Hot! Invasive Lizards With Hotter Habitat Preferences are Spreading Faster**

**MASCARO, JULIA (GRADE 6)**
Doral, Florida
Downtown Doral Charter Upper School
**New Bioplastics vs. Old Petroplastics**

## USFL16 Big Springs Regional Science Fair

**ATCHISON, PEYTON (GRADE 7)**
Ocala, Florida
Howard Middle School
**Strength in Layers**

## USFL17 Dr. Nelson Ying-Orange County Science Exposition

**CHERIGUI, JANNAH (GRADE 8)**
Orlando, Florida
Leaders Preparatory School
**Turning Plants Into Biofuel With the Power of Enzymes**

**SHARMA, ANISHKA (GRADE 8)**
Orlando, Florida
Orlando Science School Middle/High Charter
**High Speed Centrifuge Dual Gear Design**

**TIWARY, ATHARV (GRADE 8)**
Orlando, Florida
Orlando Science School Middle/High Charter
**Metamaterial Application To Enhance Radio Wave Absorption Using Metal Insulator Metal Structures**

## USFL23 Seminole County Regional Science, Mathematics and Engineering Fair

**PAWAR, AJINKYA RAHUL (GRADE 8)**
Sanford, Florida
Sanford Middle School
**TumorAI: Advanced Deep Learning Neural Network Solution for Cancer Detection Using Tumor Data in Python 3 With Binary Functions and Specializations**

## USFL26 Capital Regional Science and Engineering Fair

**DEVULAPALLI, ANVITA (GRADE 8)**
Tallahassee, Florida
Fairview Middle School
**Tessellation Triumph: Exploring the Potential of 3D-Printed Bike Helmet Foam To Safeguard the Human Brain**

## USFL27 Hillsborough Regional Science Fair

**FRIDY, RUTH (GRADE 7)**
Tampa, Florida
Roland Park K-8
**Salt Water Mitigation in Plants: Water vs. Gypsum**

**PATEL, MAHI (GRADE 7)**
Tampa, Florida
Liberty Middle School
**Optimization of Ultrasonic Wave Propagation for Targeted Microplastic Extraction in Water Filtration**

## USFL29 Palm Beach Regional Science and Engineering Fair

**ALTRO, HOLDEN WILLIAM (GRADE 8)**
Boca Raton, Florida
Pine Crest School
**Understanding Effects of UV Radiation and Microgravity on Yeast: A Model for Space Radiation Exposure**

**BOURNS, LUKE (GRADE 8)**
Palm Beach Gardens, Florida
The Weiss School
**Which Type of FRP Is the Most Durable Hurricane Shutter?**

**DEBONET, OLIVER (GRADE 8)**
Palm Beach Gardens, Florida
The Weiss School
**Designing a Portable, Affordable and Temperature-Regulating EpiPen® Case**

**KAUL, ROHAN (GRADE 8)**
Palm City, Florida
The Weiss School
**W.A.I.R., a Wearable Air Index Recorder**

**KIRKBRIDE, PENELOPE (GRADE 8)**
Boca Raton, Florida
Pine Crest School
**Evaluating the Efficacy of a Silk and Cellulose Nanocrystal Membrane for Water Filtration**

**TOURNOY, ALEXANDRA (GRADE 8)**
Boca Raton, Florida
Pine Crest School
**Analyzing the Effects of Handwriting, Typing or Using a Digital Pen on Memory Retention in Middle School Students**

## USFL30 Pasco Regional Science and Engineering Showcase

**GHOSH, ARSHIYA (GRADE 7)**
Odessa, Florida
Starkey Ranch K-8 School
**An Innovative Approach To Reduce Biofilm Formation and Progression: Evaluating the Impact of Antimicrobial Compounds on Thioredoxin-A in Biofilm for Colorectal Cancer Treatment**

## USFL50 State Science and Engineering Fair of Florida — Ying Scholars

**BURKHARDT, STELLA MAYA (GRADE 8)**
Fort Lauderdale, Florida
Pine Crest School
**How Do Different Types of Synesthesia Affect the Vividness of an Individual's Senses, Emotions, Bodily Sensations and Creativity?**

**DULAY, PETER FERNANDEZ (GRADE 8)**
Jacksonville, Florida
Julia Landon College Preparatory and Leadership Development School
**Career Bias in AI Data**

**JITARI, DANIEL (GRADE 7)**
Davie, Florida
Indian Ridge Middle School
**Optimizing Transparency and Power Generation Using Berry and Spinach Dyes in Dye-Sensitized Solar Cells**

**LOH, AARON STEPHEN (GRADE 8)**
Boca Raton, Florida
A.D. Henderson University Lab School
**Visualizing Epidemics: A Stochastic SIR Model Incorporating Dynamic Social Distancing and Point Prevalence-Driven Behaviors**

# GEORGIA

## USGA11 Gwinnett Regional Fair

**MORAJKAR, ARCHAN PRASHANT (GRADE 8)**
Duluth, Georgia
Richard Hull Middle School
**Spark Shark**

### USGA14 Cobb/Paulding Regional Science Fair

**BANERJEE, PRANAV (GRADE 8)**
Marietta, Georgia
Daniell Middle School
**Designing Earthquake-Resilient Buildings: MRF Dampers and Advanced Earthquake Detection for Enhanced Safety**

### USGA50 Georgia State Science and Engineering Fair

**WANG, ANDREW (GRADE 8)**
Chamblee, Georgia
Chamblee Middle School
**Enhancing Bioplastics: The Impact of Natural Additives on Flexibility**

**XIA, PATRICK (GRADE 8)**
Johns Creek, Georgia
Taylor Road Middle School
**Sugarcane in 3D Printing**

## HAWAII

### USHI03 Maui County Regional Science and Engineering Fair

**MAY, MICHAEL HATCHET (GRADE 7)**
Kihei, Hawaii
Kihei Charter School
**Ion Propulsion**

### USHI04 Kauai Regional Science & Engineering Fair

**ACOBA, HIIAKA VIALA (GRADE 8)**
Kekaha, Hawaii
Saint Theresa Catholic School
**Is Somebody Going To Match My Freak-Quency?**

**ALONGE, OLIVER (GRADE 8)**
Kekaha, Hawaii
Saint Theresa Catholic School
**Is Somebody Going To Match My Freak-Quency?**

**SANTIAGO, LILY (GRADE 6)**
Kekaha, Hawaii
Saint Theresa Catholic School
**Is Somebody Going To Match My Freak-Quency?**

**USHI05** **Hawaii District Science and Engineering Fair**

**TAO, JOANNA (GRADE 7) #**
Hilo, Hawaii
Waiakea Intermediate School
**Identifying the Potential Anti-*Angiostrongylus cantonensis* Properties of Native Hawaiian Products**

**USHI08** **Honolulu District Science & Engineering Fair**

**WANG, ALEXANDER (GRADE 8)**
Honolulu, Hawaii
Niu Valley Middle School
**Innovative Wildfire Flame-Suppression Device**

**USHI50** **Hawaii State Science and Engineering Fair**

**CARUSO, SIMONE CALLIOPE (GRADE 8)**
Kaneohe, Hawaii
King Intermediate
**How Coral Food Supplements Affect Coral Growth**

## ILLINOIS

**USIL50** **Illinois Junior Academy of Science State Exposition**

**DHARWADKAR, AARYA (GRADE 8)**
Barrington, Illinois
Barrington Middle School — Prairie Campus
**How Do Different Wavelengths of Light Influence Stomatal Function in *Guzmania lingulata*?**

**DONG, ANDY (GRADE 8) #**
Hinsdale, Illinois
Hinsdale Middle School
**Illuminating Cancer-Related Dark Proteins With AI**

**PULUGURTHA, ISHAAN (GRADE 8)**
Naperville, Illinois
Clifford Crone Middle School
**Can AI Predict Future Water Quality Better Than Traditional Methods?**

**TEIXEIRA, ALICE (GRADE 8)**
Barrington, Illinois
Barrington Middle School — Prairie Campus
**How Do Different Wavelengths of Light Influence Stomatal Function in *Guzmania lingulata*?**

**VIRGINKAR, AARUSH (GRADE 8)**
Naperville, Illinois
Clifford Crone Middle School
**Can AI Predict Future Water Quality Better Than Traditional Methods?**

## INDIANA

### USIN25 Hoosier Science and Engineering Fair Region 6

**LEHAL, AKALKIRAT SINGH (GRADE 7)**
Terre Haute, Indiana
Honey Creek Middle School
**Year 2 Study: Improving Dye-Sensitized Solar Cell Performance and Durability: The Role of Natural Dyes, Semiconductor Technologies and Extraction Methods**

## IOWA

### USIA50 State Science and Technology Fair of Iowa

**MA, SUNNY JOY (GRADE 8)**
Waukee, Iowa
Waukee Middle School
**Detecting AI-Generated Texts Using Pre-Trained Large Language Models: A Comparative Study of Encoder and Decoder Architectures**

**NEWTON, DRAKE (GRADE 7)**
Donnellson, Iowa
Central Lee Middle School
**Footstrike Analysis Using a 3D-Printed Insole**

## KANSAS

### USKS50 Kansas State Science and Engineering Fair

**AGRAWAL, AARAV (GRADE 7)**
Overland Park, Kansas
Lakewood Middle School
**Reducing Global Plastic Waste Through Innovative Biodegradable Plastic Production Using Locally Sourced Materials and Community Facilities**

## KENTUCKY

### USKY02 Louisville Regional Science and Engineering Fair

**PARK, OWEN THOMAS MCGEENEY (GRADE 7) #**
Louisville, Kentucky
Saint Francis of Assisi Catholic School
**A Breakthrough in Low-Voltage Regolith Mitigation**

### USKY03 Dupont Manual High School Regional Fair

**ALEMNEH, NAOMI (GRADE 8)**
Louisville, Kentucky
Meyzeek Middle School
**Can We Conserve Water in Farming by Using Biodegradable Hydrogels?**

**KOMMAREDDY, NEHAREDDY (GRADE 8)**
Louisville, Kentucky
Meyzeek Middle School
**Can We Conserve Water in Farming by Using Biodegradable Hydrogels?**

### USKY50 Kentucky Science and Engineering Fair

**GOPINATH, SANJEY (GRADE 7)**
Louisville, Kentucky
Meyzeek Middle School
**Development of IOT-Enabled Obstacle-Detector**

## MARYLAND

### USMD05 Prince George's Area Science Fair

**SAHA, TANVI (GRADE 6)**
Greenbelt, Maryland
Greenbelt Middle School
**Automated Solar Tracker To Increase Efficiency of Solar Panels**

## MASSACHUSETTS

### USMA02 Massachusetts Region IV Science Fair

**OHARA, KOJI (GRADE 7)**
Acton, Massachusetts
R.J. Grey Junior High School
**A Smart Low-Cost Chessboard: Using Copper Tape and Resistance Material To Detect Individual Chess Pieces**

## USMA03 Massachusetts Region III Science Fair

**VIEIRA, CAMILLA COSTA (GRADE 6)**
Foxborough, Massachusetts
Foxborough Regional Charter School
**The Advanced Stop System**

## USMA05 Massachusetts Region II State Science Fair

**CHANG, JASON (GRADE 6)**
Worcester, Massachusetts
Worcester Academy
**An Eco-Efficient Solar Tracking System: Bringing Power to Off-Grid Communities With an Affordable Solution**

**VINODHKUMAR, VAIBHAV (GRADE 8)**
Shrewsbury, Massachusetts
Oak Middle School
**ScreenTamer: The Algorithmic Cure for Adolescent Tech Addiction**

**ZHANG, WILLIAM (GRADE 8) #**
Shrewsbury, Massachusetts
Oak Middle School
**Best Artificial Skin for Bionic Devices: Application of Hydrogels**

## USMA50 Massachusetts State Science & Engineering Fair

**GANETSKY, MARINA (GRADE 8)**
Needham, Massachusetts
Pollard Middle School
**The Organized Brain: Word Retrieval in People With and Without Aphasia in Two Different Conditions**

**GERSHFIELD-CORDOVA, GEORGIO (GRADE 7)**
Arlington, Massachusetts
Lesley Ellis School
**Exploring the Effects of Altered Gravity and Microgravity Simulations on Rate of Growth of Cress Seeds**

**GROSZMANN, JOSH (GRADE 8)**
Arlington, Massachusetts
Lesley Ellis School
**A Unique Vertical Axis Wind Turbine Design for Urban Environments**

**SHAH, AAGAM (GRADE 7)**
Franklin, Massachusetts
Benjamin Franklin Classical Charter Public School
**Optimizing Hydroelectric Power With a Siphon**

## MICHIGAN

### USMI02 Science and Engineering Fair of Metropolitan Detroit

**KHAN, AYDIN (GRADE 8)**
Franklin, Michigan
Huda School and Montessori
**Am I OK To Breathe? A Novel Intelligent Air Pollutant Detection Prototype To Help Firefighters and the At-Risk During Wildfires**

**MODEM, SRI LAASYA (GRADE 7)**
Troy, Michigan
Baker Middle School
**AI-Driven Air Quality Forecasting: A Comparative Analysis of Machine Learning Algorithms for Enhanced AQI Prediction**

### USMI03 Flint Regional Science & Engineering Fair

**DAGA, VEDAANG (GRADE 8)**
Midland, Michigan
Jefferson Middle School
**The Effect of Mustard Oil and Clove Oil on Bacteria as a Natural Alternative to Modern Day Antibiotics**

**DAOUD, MICHAEL (GRADE 8)**
Saginaw, Michigan
Saginaw Arts and Sciences Academy
**Assessing Different Formation Aids To Determine Which Provides the Greatest Benefits for Papermaking From Grass**

**DAUT, CALVIN (GRADE 8)**
Midland, Michigan
Jefferson Middle School
**The Effect of Mustard Oil and Clove Oil on Bacteria as a Natural Alternative to Modern Day Antibiotics**

# MINNESOTA

## USMN03 Southern Minnesota Regional Science and Engineering Fair

**KOKOTOVICH, ALEK JAMAN (GRADE 7)**
Prior Lake, Minnesota
Hidden Oaks Middle School
**Expanding First Lego League Challenge (FLL-C) Robotics To Support Kids With Low Vision**

## USMN04 Twin Cities Regional Science Fair

**PARHAM, WYATT DAVID (GRADE 8)**
Stillwater, Minnesota
Stillwater Middle School
**Studying the Function of the Gypsum Crystals in the Freshwater Algae *Closterium* Using Light**

## USMN07 Rochester Regional STEM Fair

**SOOD, SIA (GRADE 8) #**
Rochester, Minnesota
John Adams Middle School
**Stress Among Middle Schoolers: Does Quality Time With Friends and Family Matter?**

## USMN50 Minnesota Academy of Science State Science & Engineering Fair

**KENDERIAN, MARIA (GRADE 6)**
Rochester, Minnesota
Co-Cathedral of Saint John the Evangelist Middle School
**Effect of Artificial Food Ingredients on Health: Using *Daphnia magna* as a Model**

**SRIRAM, ADITI (GRADE 8)**
Rochester, Minnesota
John Adams Middle School
**ArtiFix-CNN: A Novel Convolutional Neural Network To Improve Accuracy of Photoplethysmography Heart Rate**

# MISSOURI

## USMO04 Greater Kansas City Science & Engineering Fair

**BARNES, KATIE (GRADE 7)**
Overland Park, Kansas
Westridge Middle School
**Plastics in Your Water: Quantifying Microplastics in Single-Use Plastic Water Bottles When Exposed to Various Temperatures**

**GAUL, EVELYN LOUISE (GRADE 6)**
Liberty, Missouri
Heritage Middle School
**The Effects of Vitamins E, D and B7 on *Girardia tigrina* Regeneration**

**USMO07** **Academy of Science — Greater St. Louis Science Fair**

**SAWARDEKAR, RONAV MAYURESH (GRADE 7)**
Ballwin, Missouri
Crestview Middle School
**The Impact of Different Light Wavelengths on Algae for Biofuel**

**USMO08** **Ozarks Science and Engineering Fair**

**RADLUND, RYAN LEO (GRADE 8)**
Camdenton, Missouri
Camdenton Middle School
**Unblocked: A Novel Approach to Addressing the Cause of Superior Mesenteric Artery Syndrome**

## MONTANA

**USMT50** **Montana Science Fair**

**ROST, RYE LYNN (GRADE 6)**
Baker, Montana
Longfellow Elementary
**Musa Makeover: Banana Bioplastic Engineering**

## NEW JERSEY

**USNJ79** **Bergen SciChallenge**

**HUANG, VIVIENNE (GRADE 7)**
Englewood Cliffs, New Jersey
Englewood Cliffs Upper School
**For Peat's Sake: Creating Biodegradable and Sustainable Hydroponic Growth Media Alternatives to Peat for Cultivating *Luffa aegyptiaca***

**LEE, ELLIE (GRADE 8)**
Tenafly, New Jersey
Tenafly Middle School
**Studying the Impact of State Neonicotinoid Restrictions on Bee Populations**

**SUH, ELIA KUHL (GRADE 8)**
Hackensack, New Jersey
Hackensack Middle School
**Adapted Garden Microbes Transform Barren Lunar Soil Into Fertile Ground**

**WATKINS, EMMA (GRADE 7)**
Ridgewood, New Jersey
George Washington Middle School
**The Effect of Poly-γ-glutamic Acid (γ-PGA) on *Medicago sativa* Growth During Drought Stress**

## NEW MEXICO

### USNM03 Four Corners Regional Science and Engineering Fair

**RIVERA, KLARK SANTOS (GRADE 6)**
Grants, New Mexico
Mesa View Elementary School
**Comparing Rocket Flight Stabilization Using Two Different Fin Models**

## NEW YORK

### USNY02 Long Island Science and Engineering Fair

**LIN, JADA (GRADE 8)**
Great Neck, New York
Great Neck South Middle School
**Harnessing Nature's Power To Combat Antimicrobial Resistance: Assessing the Effectiveness of Natural Inhibitors in Preventing Conjugation-Based Horizontal Gene Transfer of Ampicillin Resistance in *Escherichia coli* Under In Vitro Conditions**

**SATHISH KUMAR, MIHIR (GRADE 8) #**
Hauppauge, New York
Hauppauge Middle School
**Future in Every Drop: Harvesting Blue Energy From Rain Water**

### USNY07 Greater Capital Region Science and Engineering Fair, Inc.

**BANKS, WINSTON (GRADE 8)**
Troy, New York
La Salle Institute
**Implications of CAD 3D-Printed Soft Robotics as Better Surgical Tools in the Removal of Malignant and Benign Soft Tumors**

**SRINIVASAN, SHARVESH (GRADE 8)**
Latham, New York
Shaker Junior High School
**Reaction Time of Nickel-Titanium Artificial "Muscles" From 0.5 Amperes-5.0 Amperes**

### USNY11 Terra WNY STEM Fair

**DEMIRBAS, ZEYNEP (GRADE 8)**
East Amherst, New York
Transit Middle School
**Evaluating the Reliability of Large Language Models for Stress Detection**

### USNY78 Hunter College High School Science and Engineering Fair

**LIOU, JAELYN (GRADE 8)**
New York, New York
Hunter College High School
**Biofuel: Determining Biomass Effectiveness Through Fermentation**

**REN, OLIVIA (GRADE 8)**
New York, New York
Hunter College High School
**An Objective Analysis and Testing of SPF 45 Sunscreen Efficacy Across Formulations and Regulations**

**WU, MILES (GRADE 8)**
New York, New York
Hunter College High School
**Optimizing the Strength-to-Weight Ratio of Miura-Ori Patterns**

## NORTH CAROLINA

### USNC01 Charlotte-Mecklenburg Regional Science Fair

**BUDIPALLI, PRANAV REDDY (GRADE 8)**
Waxhaw, North Carolina
Marvin Ridge Middle School
**Revolutionizing Bone Treatments: Designing a Novel Conforming Intramedullary Device for Accelerated Critical-Sized Defect Healing**

**RODRIGUES ANGRISANO JULIA (GRADE 8)**
Charlotte, North Carolina
Charlotte Latin School
**Accelerating Breast Cancer Diagnosis With Artificial Intelligence**

### USNC50 North Carolina State Science Fair

**CHITTIBOINA, ABHIGNA (GRADE 8)**
Cary, North Carolina
Mills Park Middle School
**Using 3D-Printed Microneedle Patches and Machine Learning (ML) Prediction Model for Improved Effectiveness in Drug Delivery for Specific Types of Malignant Skin Neoplasms Compared to Topical and Injection Methods**

**LEE, AARON (GRADE 8)**
Greensboro, North Carolina
The Academy at Lincoln
**Can Chestnut Shells Increase the Durability of Biodegradable Plastics?**

**RAVI, DHIYAA (GRADE 8)**
Cary, North Carolina
Mills Park Middle School
**Using 3D-Printed Microneedle Patches and Machine Learning (ML) Prediction Model for Improved Effectiveness in Drug Delivery for Specific Types of Malignant Skin Neoplasms Compared to Topical and Injection Methods**

## NORTH DAKOTA

### USND05 Northeast North Dakota Regional Science and Engineering Fair

**YU, CHE (GRADE 8) #**
Grand Forks, North Dakota
South Middle School
**Soil Moisture Prediction With Machine Learning**

## OHIO

### USOH02 Northeastern Ohio Science and Engineering Fair

**ADAVI, SOURYA (GRADE 8)**
Parma Heights, Ohio
Incarnate Word Academy
**The Sonic Shield — How Sound Technology Can Boost Firefighting Effectiveness**

**DEY, ARCHISHMAN (GRADE 8)**
Solon, Ohio
Solon Middle School
**How Do Various PM2.5 Pollutants Affect Indoor Air Pollution?**

### USOH10 University of Cincinnati Science and Engineering EXPO

**GHOSH, ISHAAN RAVAL (GRADE 8)**
Liberty Township, Ohio
Plains Junior School
**Dispelling Myths About Food Insecurity Using Digital Tools**

## OKLAHOMA

### USOK02 Bartlesville District Science Fair

**KOLLATI, LISHITHA (GRADE 7)**
Bartlesville, Oklahoma
Central Middle School
**Food Safe, Earth Safe!**

### USOK50 Oklahoma State Science and Engineering Fair

**LUTER, RAEGAN (GRADE 8)**
Morrison, Oklahoma
Morrison Junior High School
**The Value of Trust: Exploring Seller Reputation in Cattle Buyer Decisions**

**SHAMHART, KARIS (GRADE 8)**
Bartlesville, Oklahoma
Madison Middle School
**Fireproof 3.0 Testing Synergistic Properties**

## OREGON

### USOR04 Beaverton-Hillsboro Science Expo

**DHANANJAY, ADITI (GRADE 7)**
Portland, Oregon
Stoller Middle School
**Low-Cost Spectroscope To Detect Microplastics in Water**

**KAMISETTI, SAHASRA (GRADE 7)**
Portland, Oregon
Stoller Middle School
**Hera: A Portable, Carbon Nanotube-Based Sensor for Rapid Air Contamination Detection**

**TYLER, ELLIE (GRADE 8)**
Beaverton, Oregon
Whitford Middle School
**Hidden Consequences: The Neurobehavioral Effects of Artificial Food Dye Consumption**

### USOR50 Northwest Science Expo

**KIM, EUGENE (GRADE 8)**
Portland, Oregon
Stoller Middle School
**Underground Inter-Plant Communication: The Role of Mycorrhizal Networks in Enhancing Plant Resilience to Rising Climates**

**MITTAL, ANUSHI (GRADE 8)**
Beaverton, Oregon
Willamette Valley Academy
**NeuroPredict: From Brain Cell Type Predictions to Brain Disease Treatments**

**RAMIREZ, JOSIE (GRADE 8)**
Oregon City, Oregon
The Marylhurst School
**Song of the Soil: Soundscape Analysis Across Willamette Valley Ecosystems**

**SELLECK-CASTELLANOS, SARAH VICTORIA (GRADE 8)**
Beaverton, Oregon
International School of Beaverton
**Can an Affordable Option Be Designed To Make a Common Building Material, Such as Wood, More Resistant to Fire?**

## PENNSYLVANIA

### USPA03 Delaware Valley Science Fairs

**BASU, RAJIKA (GRADE 7)**
Berwyn, Pennsylvania
Tredyffrin-Easttown Middle School
**Asthma Alert: A Portable Device for Early Detection of Asthma Attacks**

**CHERUVU, ANISHA (GRADE 7)**
Warrington, Pennsylvania
Tamanend Middle School
**Personalized ICU Patient Care Through a Digital Twin-Based Clinical Decision Support System**

## USPA03 Delaware Valley Science Fairs

**KHANDHAR, KUNAL (GRADE 8)**
Moorestown, Pennsylvania
William Allen Middle School
**pH Sensitive Microbeads for Targeted Therapeutic Delivery**

## USPA04 Pittsburgh Regional Science & Engineering Fair

**KRISHNAMURTHY, RISHABH (GRADE 8) #**
Pittsburgh, Pennsylvania
Dorseyville Middle School
**Robots: Filling the Human Void**

**SWETERLITSCH, GENEVIEVE (GRADE 8)**
Pittsburgh, Pennsylvania
Pittsburgh Creative and Performing Arts 6-12
**Finding Areas of Ionization Within the Eagle Nebula**

## USPA06 York County Science and Engineering Fair

**WARNER, ABIGAIL E. (GRADE 8)**
York, Pennsylvania
York Country Day School
**The Effect of Sleep Aids From Different Sources on Planaria *(Dugesia tigrina)* Behavior and Gene Expression**

# PUERTO RICO

## TEPR05 Humacao Regional Science Fair

**CRUZ-TORRES, DARIANA AERIS (GRADE 8)**
Canovanas, Puerto Rico
Francisco "Paco" Davila Specialized Bilingual School
**Power of Ferrofluid and Magnets To Allure Oil Out of the Sea**

## TEPR06 Ponce Regional Science Fair

**FELICIANO, WILEIDY (GRADE 6)**
**Peñuelas, Puerto Rico**
Escuela Intermedia Rafael Irizarry Rivera
**Sustainable Bioplastic Based on *Musa paradisiaca* as an Alternative for Weed Control**

**GONZALEZ-THOMPSON, CAMILA ISABEL (GRADE 8)**
Ponce, Puerto Rico
Caribbean School
**Understanding IgG and IgM Seroprevalence of Dengue Virus in Southern Puerto Rico: A Key Step To Reduce Disease Burden**

**RIVERA, ISAAC ANDRES (GRADE 8)**
Yauco, Puerto Rico
Escuela Especializada en Ciencias
**The Effect of the Mixture of *Capsicum annuum* and *Cinnamomum verum* Extract as a Selective Herbicide in Inhibiting the Growth of *Cynodon dactylon***

## TEPR10 SESO Regional Science Fair

**ACOSTA, EMMA ROSE (GRADE 8)**
Mayaguez, Puerto Rico
Southwestern Educational Society
**Compressive Strength of Concrete Mortar With Recycled Rubber Crumbs**

## TEPR12 Puerto Rico Metropolitan Science Fair

**BADÍA-CORTÉS, MARÍA LUISA (GRADE 7)**
San Juan, Puerto Rico
Academia del Perpetuo Socorro
**The Effect of Biostimulants Originated From Marine Algae on Insect Pests of "Ají Dulce" Grown in Home Gardening**

**DIAZ, ALEJANDRO (GRADE 8)**
San Juan, Puerto Rico
Robinson School
**Advancing Natural Pest Management: Evaluating Coconut Oil, Lemon Juice and Vitamins C and A as Effective Biocontrol Agents for Agricultural Applications**

**GONZALEZ, LIA CAMIL (GRADE 8)**
Guaynabo, Puerto Rico
Colegio Rosa-Bell
**Evaluating the Effect of *Spathodea campanulata* (African Tulip) as an Ant Repellent To Protect Beehives**

**IANCU, NATALIA (GRADE 8)**
San Juan, Puerto Rico
Robinson School
**Advancing Natural Pest Management: Evaluating Coconut Oil, Lemon Juice and Vitamins C and A as Effective Biocontrol Agents for Agricultural Applications**

**RODRIGUEZ CORTES, SEBASTIAN (GRADE 8)**
San Juan, Puerto Rico
Colegio San Ignacio de Loyola
**The Effect of Solar Cells on the Temperature, Humidity and Photosynthetically Active Radiation in an Environment**

**ROSADO, MILANA SOFIA (GRADE 8)**
Bayamon, Puerto Rico
Colegio Puertorriqueño de Niñas
**Maglev Train**

**TERON VILLODAS, ANYA ZAHIRA (GRADE 8)**
Guaynabo, Puerto Rico
Colegio Rosa-Bell
**Evaluating the Effect of *Spathodea campanulata* (African Tulip) as an Ant Repellent To Protect Beehives**

## SOUTH CAROLINA

### USSC07 Piedmont South Carolina Region III Science Fair

**PENNINGTON, NORA RAE (GRADE 8)**
Spartanburg, South Carolina
Spartanburg Day School
**Using Computer Vision and Mobile Robotics To Detect and Collect Litter**

## SOUTH DAKOTA

### USSD02 Eastern South Dakota Science and Engineering Fair

**TUMMALA, SANHITA (GRADE 8)**
Brookings, South Dakota
George S. Mickelson Middle School
**A Novel Self-Sustainable Kit To Combat Rural Vitamin A Deficiency During Pregnancy and Early Childhood**

### USSD03 High Plains Regional Science and Engineering Fair

**GADHAMSHETTY, NEHA SRIVEDA (GRADE 7)**
Rapid City, South Dakota
Southwest Middle School
**SMORES — Smart Materials for Better Recycling and Environmental Sustainability**

**SAGE, BRADY RYAN (GRADE 8)**
Rapid City, South Dakota
Saint Thomas More Middle School
**Optimizing Driver Flight Distance and Accuracy**

# TEXAS

## USTX01 Beal Bank Dallas Regional Science and Engineering Fair

**ALINKIL, AMELIA (GRADE 8)**
Frisco, Texas
Daniel L. Jones Middle School
**T Coronae Borealis (T CrB): A Comprehensive Visualization of Historical Light Curves, Spectral Trends and Pre-Eruption Indicators for Enhanced Nova Outburst Prediction**

**CHATTOPADHYAY, ANUSHKA (GRADE 8)**
Frisco, Texas
Lawler Middle School
**Development of a pH-Responsive Hydrogel Mechanism for Cancer Detection and Triggered Drug Release Through a Scaffold for Post-Bone Cancer Treatment**

**HENSON, CYNTHIA VOLEEN (GRADE 8)**
Dallas, Texas
Sudie L. Williams Talented and Gifted Academy
**Bio-Styro: An Insulative, Biodegradable Alternative to Styrofoam**

**IYER, VIDHYUT (GRADE 7)**
Frisco, Texas
Nelson Middle School
**Building an Amphibious Drone That Can Traverse Both Aerial and Aquatic Environments Using a Deployable Buoy System**

**JAYANTH, NIHAL (GRADE 8)**
Frisco, Texas
Lawler Middle School
**Smart Medicine Pill Reminder System Using Arduino Uno R3, Load Cell and DS3231 RTC Module**

**KUO, MATTHEW (GRADE 8)**
Plano, Texas
Renner Middle School
**Factors Affecting Fuel Cell Energy Efficiency**

**LEGA, ILIANA ELIZABETH (GRADE 8)**
Dallas, Texas
Homeschool
**Classifying Species of North Texas Mosquitoes Using Computer Vision**

**LV, TERRI JENSINE (GRADE 7)**
Plano, Texas
Rice Middle School
**Synthesis and Quantum Effect Desmos of the Superconductor $YBa_2Cu_3O_{7-x}$ (YBCO)**

**MAHESH, ANYA S. (GRADE 7)**
Plano, Texas
Pat and Catherine Fowler Middle School
**AI-Powered Nail Disease Detection Using Convolutional Neural Networks**

**MATHUR, AARAV (GRADE 7)**
Irving, Texas
Uplift North Hills Preparatory
**Guardians of the Flare: Biomedical Insights Into UV Protection and Skin Cancer Prevention**

**MATHUR, ADVAY (GRADE 7)**
Irving, Texas
Uplift North Hills Preparatory
**Guardians of the Flare: Biomedical Insights Into UV Protection and Skin Cancer Prevention**

**SAVLA, RAJVEER (GRADE 8)**
Plano, Texas
Rice Middle School
**Creating Environmentally Friendly Biodegradable Plastics Using Potato Peels**

**SWAMINATHAN, NIKHITHA (GRADE 8)**
Allen, Texas
Ereckson Middle School
**Q-Safe: An Adaptive Lattice-Based Cryptographic Framework for Post-Quantum Security Using Kyber and FrodoKEM**

**YERRAMSETTI, NILAY NAGH (GRADE 7)**
Frisco, Texas
Nelson Middle School
**Building an Amphibious Drone That Can Traverse Both Aerial and Aquatic Environments Using a Deployable Buoy System**

## USTX03 Fort Worth Regional Science and Engineering Fair

**LUMBRERAS, PAOLA SOFIA (GRADE 8)**
Granbury, Texas
Acton Middle School
**Investigating Natural Antioxidants as Protective Agents Against Alcohol and Nicotine-Induced Fetal Developmental Abnormalities**

## USTX04 Rio Grande Valley Regional Science and Engineering Fair

**YADAV, SHRESTH KUMAR (GRADE 7)**
Edinburg, Texas
South Texas Independent School District Preparatory Academy
**Predicting Wildfires Using Deep Learning and Remote Sensing**

## USTX05 Science Engineering Fair of Houston

**AHSAN, MYREEN (GRADE 7)**
Friendswood, Texas
Friendswood Junior High
**Computational Simulations of RNA-Based Aptamers Targeting Epidermal Growth Factor Receptor (EGFR)+ Cells in Glioblastoma**

**ALLEN, ARIA (GRADE 6)**
Houston, Texas
Spring Branch Academic Institute
**Sticking to a Greener World: Finding a Suitable Replacement for Plastic Lollipop Sticks**

**DAVE, RISHAAN AMISH (GRADE 8)**
Sugar Land, Texas
The Honor Roll School
**Waste to Watts: Harnessing Organic Waste for Sustainable Energy Using Microbial Fuel Cells**

**ERDEM, CAROLINE (GRADE 7)**
Seabrook, Texas
Seabrook Intermediate School
**Flying High**

**GOTTIPATI, ANVITHA (GRADE 8)**
Missouri City, Texas
Quail Valley Middle School
**Development of a Home-Based, Stage-Specific Diagnostic Kit for the Detection of Protein Biomarkers To Enhance Diagnostic Capabilities and Improve Treatment Precision for Cancer**

**HUANG, SERENE (GRADE 8)**
The Woodlands, Texas
McCullough Junior High School
**From Trash to Treasure: Exploring Pectin Extraction From Watermelon Rinds**

**JETTI, ADITYA (GRADE 8)**
Missouri City, Texas
Quail Valley Middle School
**Development of a Home-Based, Stage-Specific Diagnostic Kit for the Detection of Protein Biomarkers To Enhance Diagnostic Capabilities and Improve Treatment Precision for Cancer**

**NAGEL, LOGAN (GRADE 7)**
Friendswood, Texas
Brookside Intermediate School
**Better Together? VAWT Spacing Analysis**

**POHLKAMP, CADEN TERENCE (GRADE 7)**
Friendswood, Texas
Brookside Intermediate School
**Is More Green Better? Does Littoral Vegetation Enhance Habitat Suitability of Local Retention Ponds?**

**RAJKUMAR, DIYA (GRADE 8)**
Katy, Texas
James and Sharon Tays Junior High School
**Computational Simulations of Antibody Binding to VAPB Receptors for Targeted Therapy in Medulloblastoma**

**RAM KUMAR, SHRUTHI (GRADE 7)**
Missouri City, Texas
Quail Valley Middle School
**Development of a Home-Based, Stage-Specific Diagnostic Kit for the Detection of Protein Biomarkers To Enhance Diagnostic Capabilities and Improve Treatment Precision for Cancer**

**SISY, ADEL (GRADE 7)**
Pearland, Texas
Homeschool
**TRAVA: Tandem Repeat Analysis and Visualization Atlas**

**SUFYAN, SARAH (GRADE 6)**
Friendswood, Texas
Brookside Intermediate School
**Go Green With Greywater!**

**SUSARLA, JAIRAM (GRADE 8) #**
Sugar Land, Texas
The Honor Roll School
**TERTing the Tide: Repurposing FDA-Approved Therapeutics for Cancer Treatment**

**UNSER, ROWAN WALKER (GRADE 6)**
The Woodlands, Texas
Creekside Park Junior High School
**Living Lightbulbs**

## USTX11 Alamo Regional Science and Engineering Fair

**BALAKRISHNAN, ANAHITA (GRADE 7)**
San Antonio, Texas
BASIS San Antonio Shavano Campus
**Supporting Sustainability: Developing and Testing BioFabrics From Alginate (Seaweed)**

**GONZALES, MARIA ELENA (GRADE 8)**
Cuero, Texas
Cuero Junior High School
**Efficacy of Mouthwash — Comparison of the Antibacterial Properties of Alcohol-Free Mouthwashes Against Oral Microbes: An In Vitro Study**

**RAO, NISHKA (GRADE 6)**
San Antonio, Texas
BASIS San Antonio Shavano Campus
**Can We Predict Immunotherapy Outcomes in Cancer Patients? Exploring Gene Signatures**

**TRIPATHI, ADYA (GRADE 7)**
San Antonio, Texas
Jose M. Lopez Middle School
**A Novel Method of Using Sustainable Additives To Prevent Structural Collapse: Year 2**

## USTX13 Greater Austin Regional Science and Engineering Fair

**ANWANSEDO, SHARON (GRADE 8)**
Pflugerville, Texas
BASIS Pflugerville
**Investigating Genetic Mutations in Glioblastoma Multiforme: Understanding Tumor Progression and Identifying Targets for Effective Therapies**

**HIRSAVE, ARYA (GRADE 7) #**
Austin, Texas
Canyon Vista Middle School
**Micro'fat'ories: Increasing Microalgal Biomass and Lipids for Biofuel Production**

**I., ALEKYA (GRADE 6)**
Austin, Texas
Pearson Ranch Middle School
**Hydrolift: Walking With Power**

**JAMTHE, ISHAN (GRADE 7)**
Austin, Texas
Pearson Ranch Middle School
**Hydrolift: Walking With Power**

**KANKANALA, ABHINAV (GRADE 6)**
Round Rock, Texas
Walsh Middle School
**Which Farming Method Has More Phytochemical Content: Organic or Conventionally Grown?**

**KANUTALA, ARJUN (GRADE 6)**
Round Rock, Texas
Walsh Middle School
**Which Farming Method Has More Phytochemical Content: Organic or Conventionally Grown?**

**KAUL, ANIKA (GRADE 6)**
Austin, Texas
Pearson Ranch Middle School
**Hydrolift: Walking With Power**

**LAM, TOBY (GRADE 7)**
Austin, Texas
Long-View Micro School
**The Effect of Nintendo's NES Tetris Theme Music and 28 Hertz High Beta-Frequency Binaural Beats on a 233 Hertz Carrier on Attention Span**

**MEHTA, PRANSHI (GRADE 7)**
Austin, Texas
Canyon Vista Middle School
**Machine Learning-Mediated Computational Modeling of FK506-Binding Protein 12 (FKBP12)-Enhanced CAR T-Cell Therapy for Targeted Glioblastoma Treatment**

**PAL, ARIN SUNIL (GRADE 7)**
Cedar Park, Texas
BASIS Cedar Park
**Unmuddle the Water — Water Temperature and Chitosan Performance!**

**SARAF, ARNAV (GRADE 8) #**
Austin, Texas
Canyon Vista Middle School
**The Ground Truth: A Novel Approach for Landslide Prediction With a Deep Learning Framework**

**TANNIRU, PRANAV (GRADE 6)**
Round Rock, Texas
Walsh Middle School
**Which Farming Method Has More Phytochemical Content: Organic or Conventionally Grown?**

**TAPDIYA, RUCHIR (GRADE 8)**
Austin, Texas
Canyon Vista Middle School
**Mathematics With Medicine: An Innovative Approach to Predicting and Mitigating Disease Spread, Enhancing Disease Diagnosis and Optimizing Therapeutic Treatments and Pharmacokinetics Using Machine Learning and Mathematical Algorithms**

**VAZHKUDAI, SIDDHARTH SUDHARSHAN (GRADE 7)**
Cedar Park, Texas
Running Brushy Middle School
**AIM-BASE: AI-Integrated Model To Predict the Energy Consumption of Extra-Terrestrial Colonies**

## USTX15 Coastal Bend Regional Science Fair

**KIM, AIDEN (GRADE 7)**
Corpus Christi, Texas
Marvin Baker Middle School
**The Impact of Water Type, Alkalinity and Current Input on Green Hydrogen Production Efficiency in Water Electrolysis**

## USTX50 Texas Science and Engineering Fair

**ADAMS, KATELYN ELIZABETH (GRADE 8)**
San Antonio, Texas
BASIS San Antonio Shavano Campus
**Impact of *Phaseolus vulgaris* (Red Silk Bean) Seed Priming on Drought Tolerance**

# UTAH

## USUT01 North Davis Area Science and Engineering Fair

**BUTTERFIELD, JAMES (GRADE 7)**
Centerville, Utah
Centerville Junior High
**Exploring the Strength and Duration of Paramagnetic and Diamagnetic Forces Created at Home for Potential Practical Uses**

## USUT02 Southern Utah Science and Engineering Fair

**SACHATELLO, SEDONA STEELE (GRADE 8)**
Ivins, Utah
Vista School of Performing Arts and Technology
**Rain, Rain, Go Away**

## USUT03 Weber Area Science and Engineering Fair

**CHAKRABORTY, DEEP (GRADE 8)**
North Logan, Utah
Thomas Edison Charter School
**Detecting Acute Lymphocytic Leukemia Using Machine Learning**

## USUT04 Central Utah STEM Fair

**DAMARLA, ROHAN (GRADE 7)**
Lehi, Utah
Challenger School — Traverse Mountain
**The Effect of Different Types of Vertical Fins on the Amount of Electricity Produced**

## USUT05 University of Utah Science and Engineering Fair

**GU, ELLIANNA (GRADE 7)**
Salt Lake City, Utah
Wasatch Junior High
**Is Seeing Really Believing?: Can Humans Tell the Difference Between Reality and AI?**

**JURYNEC, MARA (GRADE 6)**
Salt Lake City, Utah
Churchill Junior High
**Fungal Fighters! Identifying Mushrooms That Have Antimicrobial Properties**

**LE, VIVIAN PHUONG (GRADE 6)**
Salt Lake City, Utah
Challenger School — Salt Lake
**Renewable Rays, Better Days**

**MANDIWAL, AASHITA (GRADE 8) #**
Salt Lake City, Utah
West High School
**Modeling Non-Small Cell Lung Cancer Tumor Growth Using the Gompertz Differential Equation**

**NAGALINGAM, ADITI (GRADE 7)**
Salt Lake City, Utah
West High School
**Fractal Analysis of Slime Mold Networks as a Cancer Vascularization Model**

### USUT07 Harold W. & Helen M. Ritchey Science and Engineering Fair of Utah

**EFFENDI, FIDEL (GRADE 7)**
North Logan, Utah
Thomas Edison Charter School
**The Effect of Age and Frequency of Technology Use on the Ability To Differentiate Between Real and Artificial Intelligence Images**

**HULL, ELIJAH (GRADE 8)**
North Logan, Utah
Thomas Edison Charter School
**Flywheel & Faraday**

## VIRGINIA

### USVA01 Northern Virginia Science and Engineering Fair

**MCNALLY, LUCY OLIVIA (GRADE 8)**
Arlington, Virginia
Swanson Middle School
**The Effect of Type of Sea Wall on Milliliters of Water Splashed Over the Structure**

### USVA02 Virginia Piedmont Regional Science Fair

**WELLS, EMILY (GRADE 8)**
Charlottesville, Virginia
Charlottesville Catholic School
**Put Your Phone Down and Eat!**

### USVA06 Prince William-Manassas Regional Science and Engineering Fair

**HRUSKA, JULIA (GRADE 8)**
Manassas, Virginia
Parkside Middle School
**Will Changing the Pitch of an Underwater Propeller Lower the Level of Sound It Produces?**

**LU, LILY (GRADE 8) #**
Haymarket, Virginia
Ronald Wilson Reagan Middle School
**Optimizing the Speed and Efficiency of an Electromagnetic Train**

## USVA09 Tidewater Science and Engineering Fair

**LI, CHELSEA (GRADE 7)**
Virginia Beach, Virginia
Old Donation School
**Impact of Temperature on Lithium-Ion Battery Performance and a Flexible Insulation Solution**

## USVA78 Greater Northern Virginia Science and Engineering Fair for Elementary and Middle School

**DESHPANDE, PRIYA (GRADE 8)**
Herndon, Virginia
Rachel Carson Middle School
**Invairo: Protecting Our Environment From Invasive Plants**

**DESHPANDE, RADHIKA (GRADE 8)**
Herndon, Virginia
Rachel Carson Middle School
**Invairo: Protecting Our Environment From Invasive Plants**

**JUN, ADRIAN HOYOUNG (GRADE 7)**
Ashburn, Virginia
Eagle Ridge Middle School
**Bio-Inspired Solar Panel Design**

**KUKREJA, RIYANSHI (GRADE 6)**
Reston, Virginia
Academy of Christian Education
**Talking Eyes: AI-Based Assistive Glasses for Object Detection, Text-to-Speech and Navigation for the Visually Impaired**

**UPPALAPATI, BHAVYA (GRADE 7)**
Herndon, Virginia
Rachel Carson Middle School
**RiFT: A Low-Cost, Rice Flour-Derived Trojan Horse Nanocarrier System for the Eradication of Methicillin-Resistant *Staphylococcus aureus***

# WASHINGTON

## USWA01 Mid-Columbia Regional Science and Engineering Fair

**WANG, SAMUEL PAN-CHEN (GRADE 8)**
West Richland, Washington
Enterprise Middle School
**Multimodal Acoustic Frequency Modulation for Autonomous Fire Suppression: AI-Enhanced Spatiotemporal Mapping and Fire Dynamics Analysis**

## USWA50 Washington State Science and Engineering Fair

**ARVINDH, ABHIMANYU (GRADE 6)**
Sammamish, Washington
Inglewood Middle School
**Leaping Lizards — That's Cold, Mate!**

**BORATE, NEEL (GRADE 8)**
Bellevue, Washington
Odle Middle School
**FindIt: A Novel AI-Powered Lost and Found**

**DEVARAJAN, VEDIKA (GRADE 8) #**
Redmond, Washington
Timberline Middle School
**Camels on Fire: Igniting the Future of Firefighter Safety With Biomimicry-Inspired PFAS-Free Turnout Gear**

**MALIGE, VYAN MANJUNATH (GRADE 7)**
Ravensdale, Washington
Summit Trail Middle School
**Implementation of Regenerative Electromagnetic Braking Systems in Gasoline Vehicles**

**MANDAVILLI, LAASYA PRIYA (GRADE 7)**
Renton, Washington
Maywood Middle School
**ThyroCARE: Enhancing Thyroid Cancer Prognostics Using Random Forest Models**

**PAUL, AARATRIKA (GRADE 8)**
Sammamish, Washington
Inglewood Middle School
**ThyroCARE: Enhancing Thyroid Cancer Prognostics Using Random Forest Models**

**SHETTY, ATHARV (GRADE 6)**
Ravensdale, Washington
Summit Trail Middle School
**Implementation of Regenerative Electromagnetic Braking Systems in Gasoline Vehicles**

**XUE, OLIVIA (GRADE 6)**
Redmond, Washington
The Overlake School
**Tunerscope — A Standalone Device for Time-Series Analysis of Woodwind Instruments**

**ZEESHAN, AHMED (GRADE 8) #**
Valley, Washington
Homeschool
**AI-Sight: Early Detection of Eye Conditions With AI**

SOCIETY FOR SCIENCE

## About Society for Science

Society for Science is a champion for science, dedicated to promoting the understanding and appreciation of science and the vital role it plays in human advancement. Established in 1921, Society for Science is best known for its award-winning journalism through Science News and Science News Explores, its world-class science research competitions for students, including the Regeneron Science Talent Search, the Regeneron International Science and Engineering Fair and the Thermo Fisher Scientific Junior Innovators Challenge, and its STEM outreach programming that seeks to ensure that all students have an opportunity to pursue a career in STEM.

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As a global life sciences leader, we are committed to cultivating generations of Science, Technology, Engineering and Math (STEM) professionals that fuel innovation and solve the world's most complex problems.

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