Broadcom MASTERS
2014 Semifinalists
About Broadcom MASTERS

Broadcom MASTERS® (Math, Applied Science, Technology and Engineering Rising Stars), a program of Society for Science & the Public, is the premier middle school science and engineering fair competition.

SSP affiliated science fairs around the country nominate the top 10% of 6th, 7th and 8th grade students to enter this prestigious competition. After submitting the online application, 300 semifinalists are selected and 30 finalists are brought to Washington, DC. Finalists present their research projects and compete in team hands-on STEM challenges to demonstrate their skills in critical thinking, collaboration, communication and creativity.

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- Samueli Foundation
- Science News for Students
- Deloitte.
- Allergan
- Sally Ride Science
- Q?rius
- The JASON Project
- Wolfram Research
- Affiliated Regional and State Science & Engineering Fairs
- Parents, Teachers and Mentors of the 2,054 Broadcom MASTERS entrants
2014 Broadcom MASTERS Semifinalists

Students are listed in order by state, fair, and name of school based on information provided by each student in their entry. Students listed under the state fair may also have qualified through their regional fair. Students conducting team projects were eligible, but each student individually entered and was judged based on the submitted written entry. The grade listed for each student is from Spring 2014 when they qualified at their science fair.

**Arizona**

**USAZ03**  
Southern Arizona Regional Science and Engineering Fair

- **Home School Giordano**, Tucson, Arizona  
  **Daniel Anthony Giordano (Grade 6)**  
  Tucson, Arizona  
  *Javelina Cantina*

- **Thai Homeschool**, Tucson, Arizona  
  **Claire Jeanne Thai (Grade 8)**  
  Tucson, Arizona  
  *Phytoremediation of Heavy Metal Ions by Aquatic Macrophytes*

- **Vail Academy and High School**, Tucson, Arizona  
  **Matthew Lane Fosdick (Grade 6)**  
  Corona De Tucson, Arizona  
  *Thar’s Zircons in Them Thar Hills!*

**USAZ50**  
Arizona Science and Engineering Fair

- **Anthem Preparatory Academy**, Anthem, Arizona  
  **Nicole Elizabeth Sherwood (Grade 8)**  
  Anthem, Arizona  
  *Modeling Enzyme Suppression as a Treatment for Pancreatic Cancer*

- **Hardin Homeschool**, Chandler, Arizona  
  **Alexander Wesley Hardin (Grade 8)**  
  Chandler, Arizona  
  *PMID Feasibility Experiment*

- **Mesa Academy for Advanced Studies**, Mesa, Arizona  
  **C.G. Schultz (Grade 7)**  
  Mesa, Arizona  
  *Primitive Triangles Incognito: An Application of Pick’s Theorem*

- **Shepherd Junior High**, Mesa, Arizona  
  **Delaney Brynn Matasic (Grade 8)**  
  Mesa, Arizona  
  *Modifying Serum Triglycerides in a Group of Dogs*

**Arkansas**

**USAR05**  
Central Arkansas Regional Science Fair

- **LISA Academy**, Little Rock, Arkansas  
  **Meghana Chowdary Bollimpalli (Grade 7)**  
  Little Rock, Arkansas  
  *Biodiesel: Fueling the Future?*
LISA Academy, Little Rock, Arkansas
Chythanya Murali (Grade 8)
Little Rock, Arkansas
Saving the Aquatic Ecosystem from Oil Spill Cleaning Agents: A Non-Conventional Approach

California
USCA01

Orange County Science and Engineering Fair

Acaciawood College Preparatory Academy, Anaheim, California
Joseph Daniel Lou (Grade 6)
Anaheim, California
How Costly Is Your Multitasking? A Computer-Assisted Quantitative Study of Age and Gender Differences in Switching Costs in Time and Accuracy

Fairmont Private School, North Tustin, California
Sahar A. Khashayar (Grade 8)
Laguna Niguel, California
Wildfire Early Warning System Using Computer Science

Fairmont Private Schools - Anaheim Hills, Anaheim Hills, California
Sherry Yueh Xu (Grade 8)
Fullerton, California
Light It Up: The Energy Efficiency of Light Bulbs

Jeffrey Trail Middle School, Irvine, California
Jeffrey Wang Xing (Grade 8)
Irvine, California
The Study of Levitation Distance and Stability Range in Diamagnetic Levitation

La Madera Elementary, Lake Forest, California
Tathya Vipul Shah (Grade 6)
Lake Forest, California
Smart Electricity

Rancho San Joaquin Middle School, Irvine, California
Anita Garg (Grade 8)
Irvine, California
The Effect of Competition on a Problematic Invasive Species, Brassica nigra

Renascence School International Orange County, Costa Mesa, California
Amelia Ryann Talkington (Grade 8)
Corona del Mar, California
Impact of Simulated Stomach Acid on Microorganism Growth in Organic and GMO Soybean/Yogurt Cultures

Talbert Middle School, Huntington Beach, California
Caroline S. Edmonds (Grade 7)
Fountain Valley, California
Blink and Run: Flashlight Fish

USCA01 and
USCA50

Orange County Science and Engineering Fair

California State Science Fair

Pioneer Middle School, Tustin, California
Michelle C. Xu (Grade 8)
Irvine, California
A Mathematical Model of Leaf Counting for Carbon Sequestration
Mirman School, Los Angeles, California

**David Michael Duncan (Grade 7)**
Los Angeles, California

*What's in the Meat We Eat? Detecting Antibiotics in Beef, Pork and Chicken from Grocery Stores in an Economically Diverse City*

Portola Highly Gifted Magnet Center, Tarzana, California

**Isaiah Logan DeWitt O'Neal (Grade 7)**
Los Angeles, California

*For the Venus Flytrap, Does Food Type Affect the Speed of a Trap's Closing and the Duration of the Trap's Closed State?*

Richard Henry Dana Middle School, Arcadia, California

**Benjamin Cheung Liu (Grade 7)**
Arcadia, California

*A Home-made, Microfabricated Lab-on-a-Chip Device for Urinalysis*

St. Gregory Hovsepian School, Pasadena, California

**Daniel Stephan Yacoubian (Grade 8)**
Glendale, California

*Using a Car's Tailpipe to Create Electricity*

Weizmann Day School, Pasadena, California

**Aaron Kornfeld (Grade 6)**
Pasadena, California

*Rolling Down a Hill*

Portola Highly Gifted Magnet Center, Tarzana, California

**Sophia Marguerite Hewitt (Grade 8)**
Los Angeles, California

*Inducing Cellular Senescence in Tetrahymena thermophila using Epigallocatechin gallate to Shorten Telomeres: Can Green Tea Help Fight Cancer?*

Sierra Madre Middle School, Sierra Madre, California

**Zoe Zawol (Grade 8)**
Sierra Madre, California

*Is the Cosmic Ray Flux Greater at Higher Altitudes than at Lower Altitudes?*

Kastner Intermediate School, Fresno, California

**Tyler Edward Robertson (Grade 7)**
Fresno, California

*Commotion in the Ocean: The Effect of Wave Barriers on Tsunami-Induced Seiche Waves*

Sebastian Questa Elementary School, Mountain House, California

**Sangeetha Bharath (Grade 8)**
Mountain House, California

*PiezoPower*
Winston Churchill Middle School, Carmichael, California  
Albert W. Qin (Grade 6)  
Folsom, California  
The Development of Drug Resistance: A Computer Simulation  

USCA04 and USCA50  
Sacramento Regional Science and Engineering Fair  
California State Science Fair  

Folsom Middle School, Folsom, California  
Deveshi Buch (Grade 7)  
Folsom, California  
4eyes: An Ultrasonics-based Solution to Collisions Involving Cellphone-distracted Pedestrians  

USCA05  
Greater San Diego Science and Engineering Fair  

Bonita Vista Middle School, Chula Vista, California  
Shreya Saraswati Ranganath (Grade 7)  
Chula Vista, California  
A Sandwich Stops Bullets!  

The Rhoades School, Encinitas, California  
Aadil Mohammed Rehan (Grade 7)  
Carlsbad, California  
Do Ions Regulate Positional Information and Regeneration?  

Thurgood Marshall Middle School, San Diego, California  
Joonhyuk Lee (Grade 8)  
San Diego, California  
The Effect of Electromagnetic Fields on Fiber Optic WDM Signal Quality  

Thurgood Marshall Middle School, San Diego, California  
Anshul Singh (Grade 8)  
San Diego, California  
Wind-proofing Bridges Prone to Hurricane Winds  

USCA05  
Greater San Diego Science and Engineering Fair  
USCA50  
California State Science Fair  

The Rhoades School, Encinitas, California  
Daniel Sebastian Bruce (Grade 8)  
San Diego, California  
Flight Initiation Distance: Human Presence Impacts on Lagoon Bird Response  

Thurgood Marshall Middle School, San Diego, California  
Gregory McNeil Martin (Grade 8)  
San Diego, California  
Increasing Lipid Yields in Chlorella vulgaris through Natural Nitrogen Depletion  

USCA07  
Synopsys Silicon Valley Science and Technology Championship  

Challenger School, Sunnyvale, California  
Ananya Karthik (Grade 7)  
Sunnyvale, California  
A Greener Cleaner: Investigating a Potential Biosorbent for the Removal of Heavy Metals from Aqueous Solutions
David Starr Jordan Middle School, Palo Alto, California
Ayush S. Gupta (Grade 7)
Palo Alto, California
Developing a Tennis Ball Tester

Evergreen Elementary School, San Jose, California
Andrew Basil Nazareth (Grade 6)
San Jose, California
Radiation: How Safe Are You with Your Daily Devices?

Home School, San Jose, California
Laura Lynn Powers (Grade 7)
San Jose, California
Investigating Ant Trail Pheromones

Jane Lathrop Stanford Middle School, Palo Alto, California
Edward Ross (Grade 7)
Moffett Field, California
Balloon Acoustics: Why Do Balloons Make a Loud Noise When They Pop?

Stratford Middle School, Santa Clara, California
Shiva Balachander (Grade 7)
Santa Clara, California
Sticky Situation: Effect of Natural Supplements on Removal of Cholesterol from Arterial Walls

Stratford Middle School, Santa Clara, California
Ronak Kiran Mundkur (Grade 8)
Los Altos, California
Surfing on Nano Magnets

Stratford Middle School, Santa Clara, California
Anish Muthali (Grade 7)
San Jose, California
The Minotaur of the Labyrinth

Terman Middle School, Palo Alto, California
Tian Chen (Grade 8)
Palo Alto, California
The Thermodynamic Freezing Paradox of the Mpemba Effect: Explaining Using Thermo Conductivity and Bond Energy Transfer

The Harker School, San Jose, California
Michael Kwan (Grade 8)
Cupertino, California
The Effects of Farnesol on Pogonomyrex barbatus in a Controlled Environment

The Harker School, San Jose, California
Shaya Zarkesh (Grade 8)
Saratoga, California
eShoe: A Novel Approach to Generating Electricity through Walking Shoes

The Harker School, San Jose, California
Rajiv Movva (Grade 8)
San Jose, California
Preventing Excessive Blood Sugar Levels in Type 2 Diabetes Patients: An in vitro Inhibition Mechanism of Alpha-Amylase with Flavonoids
USCA07 and USCA50
Synopsys Silicon Valley Science and Technology Championship
California State Science Fair

Don Callejon School, Santa Clara, California
Dylon Matthew Tjanaka (Grade 7)
Santa Clara, California
Using Active Tilt Compensation to Improve Rollover Stability of Large Trucks

Joaquin Miller Middle School, San Jose, California
Raghav Ganesh (Grade 6)
San Jose, California
A Low Cost, Adoptable, User Tested Add-on Device for the White Cane Facilitating Safer Mobility of the Visually Impaired

Old Orchard School, Campbell, California
Holly Marie Jackson (Grade 8)
San Jose, California
Sewing Science

USCA08
Contra Costa County Science & Engineering Fair

Diablo Vista Middle School, Danville, California
Kevin Kim (Grade 8)
Danville, California
Digital Analysis of Diverse Woodwind Instruments

USCA09
Lawrence Livermore National Laboratory - Alameda County Science and Engineering Fair

Alameda Community Learning Center, Alameda, California
Harrison Philip Coorey (Grade 6)
Oakland, California
Are Some Multiplication Facts Harder than Others?

Challenger School, Newark, California
Ashwin Reddy Adulla (Grade 8)
Fremont, California
The Solvent Solution

USCA11
Santa Cruz County Science and Engineering Fair

Pacific Collegiate School, Santa Cruz, California
Ferryn Amelia Spence (Grade 8)
Santa Cruz, California
Abundance and Diversity of Aquatic Insects Colonizing Different Leaf Species: Does Leaf Matter Matter?

USCA13
Riverside, Inyo, Mono, San Bernardino (RIMS) Science and Engineering Fair

All Saints Carden Academy, Riverside, California
Shayle Gupta (Grade 7)
Riverside, California
Making Schools Safer for Children with Food Allergies with the Ideal Wipe

Amelia Earhart Middle School, Riverside, California
Preetha Srikanth Krishnamurthy (Grade 8)
Riverside, California
Do Modern Devices Emit Harmful Amounts of EMFs?
Amelia Earhart Middle School, Riverside, California
Yushan Su (Grade 8)
Riverside, California
*The Effects of EMF Radiation on Life*

Frank Augustus Miller Middle School, Riverside, California
Sebastian Julio Figueroa (Grade 8)
Riverside, California
*The Effect of Bird Formation on Flight Efficiency*

Glen Avon Elementary School, Jurupa Valley, California
Hamish Seth De La Cruz (Grade 6)
Riverside, California
*Chamber, Photo-degradation, Action!*

Letha Raney Intermediate School, Corona, California
Aman Bhaskar Chandan (Grade 8)
Corona, California
*Concussions: Can We Head Them Away?*

St. Edward School, Corona, California
Nicholas Antonio Perez (Grade 6)
Lake Elsinore, California
*Polymer: The Ultimate Barrier to Fire and Smoke*

San Jacinto Leadership Academy, San Jacinto, California
Shakson Kyoh Isaac (Grade 7)
San Jacinto, California
*Soil + Reused Coffee Grounds + Tech = Novel Microbial Fuel Cell*

Western Center Academy, Hemet, California
Rebecca Alysse Dana (Grade 7)
Hemet, California
*Is Your Roof Fire Safe?*

Western Center Academy, Hemet, California
Krystal Rose Horton (Grade 7)
Menifee, California
*Dispositional Attitude Measure*

USCA13 and USCA50
RIMS Science & Engineering Fair
California State Science Fair

Canyon Hills Junior High School, Chino Hills, California
Thea Carina Adumitroaie (Grade 7)
Chino Hills, California
*Diamagnetic Levitation of Pyrolytic Graphite and Young Humans (Could We?)*

St. Hyacinth Academy, San Jacinto, California
Andres Sebastian Gonzalez (Grade 7)
Hemet, California
*School Milk: Carton or Plastic*

USCA50
California State Science Fair
Bayside STEM Academy, San Mateo, California
Marcus Xavier Stand Luebke (Grade 7)
San Mateo, California
*Running on Water: Optimizing Hydrogen and Oxygen Production from Water to Power Cars*
Corte Madera, Portola Valley, California
**Cameron Cole Jones (Grade 7)**
Portola Valley, California
*Is It Warm or Is It Just Me?: Regulating Thermal Comfort with Personal Peltier Modules*

Goleta Valley Junior High School, Goleta, California
**James Peter Roney (Grade 8)**
Santa Barbara, California
*Can Ant Pheromones Communicate Food Quality?*

La Colina Junior High School, Santa Barbara, California
**Ilana Susan Shapiro (Grade 8)**
Santa Barbara, California
*Gravity and the Torsion Balance: A Home-based Study of Gravitational Attraction*

La Entrada Middle School, Menlo Park, California
**Patrick David Kao (Grade 8)**
Portola Valley, California
*Creating a Space Flight Simulator Program*

Notre Dame Catholic School, Chico, California
**Joseph Arthur Huitt (Grade 7)**
Chico, California
*The Fungal Effect: Endomycorrhizae Fungi on Corn Growth and Production*

Redwood Middle School, Saratoga, California
**Cameron Morgan Baab (Grade 8)**
Saratoga, California
*The Effects of Various Extraction Methods of the Antioxidant EGCG on Biofuel Production in Nannochloropsis salina*

St. Charles School, San Carlos, California
**Hannah Olivia Cevasco (Grade 7)**
San Carlos, California
*Honey, I Found a Cure! Nature’s Antibiotic*

St. Rose of Lima School, Chula Vista, California
**Leonardo Ezekiel Pena (Grade 7)**
Chula Vista, California
*Human vs. Robot*

The Harker School, San Jose, California
**Anooshree Lauren Sengupta (Grade 8)**
San Jose, California
*Nanoparticle Pollution: A “Growing Problem” -- The Effect of TiO₂ Nanoparticles on E. Coli Growth and Viability in the Presence of Light*

The Harker School, San Jose, California
**Kaushik Shivakumar (Grade 7)**
Santa Clara, California
*Energy-Efficient Aircraft Landings: Factors Influencing the Conversion of the Kinetic Energy of a Landing Airplane into Useful Electrical Energy*

Wangenheim Middle School, San Diego, California
**Davis Rush Boring (Grade 8)**
San Diego, California
*What Is the Best Material for a Football Helmet Lining to Reduce G-forces?*
USCA78  Irvine Unified School District Science Fair

Alderwood Elementary, Irvine, California
Michael Wayne Schoenberger (Grade 6)
Irvine, California
Storm The Castle with Newton’s Second Law of Motion: Ping Pong Projectile

Colorado
USCO04 and
USCO50  Pikes Peak Regional Science Fair
Colorado Science and Engineering Fair

The Classical Academy, Colorado Springs, Colorado
Liam Hayden Young (Grade 7)
Colorado Springs, Colorado
The Bubble Effect: How Nozzle Induced Cavitation Reduces Surface Drag on Water Vessels

USCO06  Longs Peak Science and Engineering Fair

Blevins Middle School, Fort Collins, Colorado
Alex Amash (Grade 8)
Fort Collins, Colorado
Chemical Food Preservatives: How Effective Are They at Retarding Bacterial Growth?

USCO10  Denver Metropolitan Regional Science and Engineering Fair
USCO50  Colorado Science and Engineering Fair

Challenge School, Denver, Colorado
Hari Sowrirajan (Grade 8)
Aurora, Colorado
Soak up the Sun: Using Nanoparticles to Catalyze Water Vaporization

USCO50  Colorado Science and Engineering Fair

Summit Charter Middle School, Boulder, Colorado
Fiona Sofia Anderson (Grade 8)
Boulder, Colorado
Liquid Invisibility Cloak

Summit Charter Middle School, Boulder, Colorado
Amrita Purkayastha (Grade 8)
Superior, Colorado
How Weight Affects Canine Hypothyroidism

Connecticut
USCT50  Connecticut Science & Engineering Fair

Canton Middle School, Canton, Connecticut
Gabriel Hunter Mesa (Grade 8)
Canton, Connecticut
Graphene Enhanced Piezoelectric Generator for Environmental Energy Conservation

Engineering and Science University Inter-district Magnet School, Hamden, Connecticut
Prastik Mohanraj (Grade 7)
Ansonia, Connecticut
Using Wettability to Develop Reusable Freezer Bags
Middlebrook School, Wilton, Connecticut

**Jonathan Wu (Grade 7)**
Wilton, Connecticut

*Harness the Power of Wind and Solar*

St. Rose of Lima School, Newtown, Connecticut

**Catherine Marie Herrick (Grade 7)**
Sandy Hook, Connecticut

*The Investigation of the Presence of Plastic Microscopic Fibers in Effluent Sewage Water and the Long Island Sound*

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**Florida**

**USFL01**

Heartland Regional Science and Engineering Fair

Hill Gustat Middle School, Sebring, Florida

**Rohin Patel (Grade 6)**
Sebring, Florida

*From Waste to Biofuels*

**USFL05**

Thomas Alva Edison Kiwanis Science and Engineering Fair

L. A. Ainger Middle School, Englewood, Florida

**Kristen McKenzie Locker (Grade 8)**
Englewood, Florida

*Cancel Cancer*

Paul Laurence Dunbar Middle School, Fort Myers, Florida

**Christopher Gerard Hanwacker (Grade 8)**
Fort Myers, Florida

*The Impact of Magnetic Fields on $H_2O$*

**USFL06 and USFL50**

St. Lucie County Regional Science and Engineering Fair

State Science and Engineering Fair of Florida - Ying Scholars

Lincoln Park Academy, Fort Pierce, Florida

**Hafsa Naseem Saeed (Grade 8)**
Fort Pierce, Florida

*Nitrogen Levels from the Agricultural Fields to the Indian River Lagoon*

Lincoln Park Academy, Fort Pierce, Florida

**Haniya Shareef (Grade 8)**
Port St. Lucie, Florida

*What Is the Response of Brazilian Pepper-tree to the Attack of the Exotic Herbivore Calophya latiforceps?*

**USFL07**

Panhandle Regional Science and Engineering Fair

Shoal River Middle School, Crestview, Florida

**Ammar Sabih Syed (Grade 8)**
Crestview, Florida

*Tiny Titans: A Study on the Effect of Silver Nanoparticles on Escherichia coli*
USFL07 and USFL50
State Science and Engineering Fair of Florida - Ying Scholars
C.W. Ruckel Middle School, Niceville, Florida
Camille Alden Miles (Grade 8)
Niceville, Florida
Double the Fun in the Sun: High Efficiency Hybrid Thermal Photovoltaic Solar Panel

USFL08
Alachua Region Science and Engineering Fair
Abraham Lincoln Middle School, Gainesville, Florida
Amir Helmy (Grade 8)
Gainesville, Florida
Using Smart-Phones to Monitor Heart Health

Brindha Priya Rathinasabapathi (Grade 6)
Gainesville, Florida
Arsenic in Rice: Can Rinsing Rice in Water Reduce Arsenic?

USFL08 and USFL50
State Science and Engineering Fair of Florida - Ying Scholars
Abraham Lincoln Middle School, Gainesville, Florida
Zofia Natalia Caes (Grade 8)
Gainesville, Florida
Bioinformatics and Molecular Analysis of Methicillin Resistant Staphylococcus aureus

USFL09
Broward County Science Fair
Indian Ridge Middle School, Davie, Florida
Madelyn Shayne White (Grade 7)
Davie, Florida
Shocking Growth, Part II: Is Increasing Electrical Voltage Beneficial to Plant Growth?

USFL14
Brevard Intracoastal Regional Science and Engineering Fair
DeLaura Middle School, Satellite Beach, Florida
Abbey Joan Havel (Grade 8)
Satellite Beach, Florida
Driving on the Moon

USFL15
South Florida Science and Engineering Fair
Archimedean Middle Conservatory, Miami, Florida
Dmitri Raoul Morales (Grade 6)
Miami, Florida
Liquid Gold: Effects of Urine on Tomato Seedlings
USFL15 and USFL50
Regional Science and Engineering Fair South Florida
State Science and Engineering Fair of Florida – Ying Scholars

George Washington Carver Middle School, Miami, Florida
Linus Alexander Freyer (Grade 8)
Pinecrest, Florida
Who Wants to Eat Horse?: Accuracy of Meat Declaration in Lasagna

USFL16
Big Springs Regional Science Fair

The Villages Charter Middle School, The Villages, Florida
Tiffany Liu (Grade 8)
Lady Lake, Florida
Can MRI Differentiate between Gram-positive and Gram-negative Bacterial Cultures?

USFL16
Big Springs Regional Science Fair

USFL50
State Science and Engineering Fair of Florida – Ying Scholars

Classical Conversations, Ocala, Florida
Christopher Dale Katz (Grade 8)
Ocala, Florida
Firing into the Future: Impact of Increasing Railgun Voltage on Projectile Distance

USFL17
Dr. Nelson Ying Expo

Trinity Preparatory School, Winter Park, Florida
Anusha Karandikar (Grade 6)
Longwood, Florida
The Mathematics of Lawn Irrigation

USFL19
Florida Three Rivers Regional Science and Engineering Fair

Deane Bozeman School, Southport, Florida
Gary Wayne Baldwin (Grade 7)
Southport, Florida
Plants with a Purpose

USFL23 and USFL50
Seminole County Regional Science, Math and Engineering Fair
State Science and Engineering Fair of Florida – Ying Scholars

Sanford Middle School, Sanford, Florida
Jonathan Paul Sepulveda (Grade 8)
Apopka, Florida
The Influences of Greenhouse Gas Trends on Climate Change

USFL25
Martin County Regional Science and Engineering Fair

St. Joseph Catholic School, Stuart, Florida
Osiris Ramos, Jr. (Grade 7)
Stuart, Florida
Judge Me by My Size Do You? The Effects of Salinity Levels in the St. Lucie River on the Size and Abundance on Ctenophores
USFL25  |  Martin County Regional Science and Engineering Fair  
USFL50  |  State Science and Engineering Fair of Florida – Ying Scholars  

Stuart Middle School, Stuart, Florida  
**Caroline Grace Nolan (Grade 8)**  
Stuart, Florida  
*Filtering Agricultural Effluent with Fungal Mycelium*

USFL26 and  |  Capital Regional Science and Engineering Fair  
USFL50  |  State Science and Engineering Fair of Florida – Ying Scholars  

Deerlake Middle School, Tallahassee, Florida  
**Grant Donovan Womble (Grade 8)**  
Tallahassee, Florida  
*Building Better Blades: Increasing Efficiency of Wind Turbines through Biomimicry and Winglet Blade Design, Year Two*

USFL27  |  Hillsborough Regional Science, Technology, Engineering and Mathematics Fair  
USFL50  |  State Science and Engineering Fair of Florida – Ying Scholars  

St. Stephen Catholic School, Riverview, Florida  
**Colton Chance Lewis (Grade 8)**  
Wimauma, Florida  
*Electromagnetic Rocket Propulsion*

USFL28  |  Brevard Mainland Regional Science and Engineering Fair  

West Shore Junior/Senior High School, Melbourne, Florida  
**Calista Jia Xin Foo (Grade 8)**  
West Melbourne, Florida  
*Which Organic Material Would Best Serve as a Bioplastic to Replace Petroleum-based Plastic?*

West Shore Junior/Senior High School, Melbourne, Florida  
**Andres Cruz-Sanchez (Grade 8)**  
Melbourne, Florida  
*A Computational Phylogenetics Approach to Drug Discovery for the Treatment of Alzheimer’s Disease*

USFL28 and  |  Brevard Mainland Regional Science and Engineering Fair  
USFL50  |  State Science and Engineering Fair of Florida – Ying Scholars  

West Shore Junior/Senior High School, Melbourne, Florida  
**Muhammad Ugur oglu Abdulla (Grade 8)**  
Melbourne, Florida  
*Deterministic and Stochastic Analysis in Biomedical Engineering: Fractal Geometry vs. Brownian Motion*

USFL29  |  Palm Beach Regional Science and Engineering Fair  

The Weiss School, Palm Beach Gardens, Florida  
**Glenn Manuel Grimmett (Grade 6)**  
Jupiter, Florida  
*Chlorine Disinfection of South Florida Groundwater: A Source of Dangerous Disinfection By-products?*
USFL50  State Science and Engineering Fair of Florida – Ying Scholars

Julia Landon College Preparatory and Leadership Development School, Jacksonville, Florida
Kavitha Vudatha (Grade 7)
Jacksonville, Florida
The Effect of Different Resistor Loads on Charging and Discharging of a Capacitor in a DC Circuit

George Washington Carver Middle School, Miami, Florida
Bibi Soraya Moghani (Grade 8)
Miami, Florida
It’s Toxic

Lakeland Christian School, Lakeland, Florida
Evan Patrick McLoughlin (Grade 8)
Lakeland, Florida
Neural Firing Range, Year II: Determining and Comparing the Effect of Methylphenidate and Dextroamphetamine on Cricket Neural Firing

Georgia
USGA09  Griffin RESA Regional Science Fair

Indian Creek Middle School, Covington, Georgia
Ava Jane Teasley (Grade 7)
Covington, Georgia
Preventing a Pain in the Butt

USGA50  Georgia State Science and Engineering Fair

Oconee County Middle School, Watkinsville, Georgia
Marin Elizabeth Lonnee (Grade 7)
Watkinsville, Georgia
Taming the Mighty Mite: Natural Varroa Destructor Mite Treatments

Hawaii
USHI50  Hawaii State Science and Engineering Fair

Home School, Kula, Hawaii
Celeste Maida Jongeneelen (Grade 8)
Kula, Hawaii
Disk-O Stars, Part Two

Island Pacific Academy, Kapolei, Hawaii
Jonathan Tadashi Spangler-Sakata (Grade 7)
Kapolei, Hawaii
Can Your Arthritic Dog Be More Active with Stem Cells?

Niu Valley Middle School, Honolulu, Hawaii
Ricky Yu Yen Ma (Grade 8)
Honolulu, Hawaii
Fat Chloroplast

St. Andrew’s Priory School, Honolulu, Hawaii
Emily Aiko Kurth (Grade 8)
Honolulu, Hawaii
What Killed the Fish In Honolulu Harbor? The Effect of Molasses on Dissolved Oxygen Levels in Salt Water
**Illinois**

**USIL01**

Franklin Fine Arts Center, Chicago, Illinois

**Benjamin S. Branda (Grade 7)**

Chicago, Illinois

*The Effect of Electromagnetic Fields on Scenedesmus Algae*

**USIL02**

Illinois Junior Academy of Science Region XII Science Fair

Albert Cassens Elementary, Glen Carbon, Illinois

**Audrey Grace Stone (Grade 6)**

Edwardsville, Illinois

*Design and Demonstration of Electrostatic Discharge: Van De Graaff Generator*

**Indiana**

**USIN05**

Calumet Regional Science Fair

Wilbur Wright Middle School, Munster, Indiana

**Annie Ostojic (Grade 6)**

Munster, Indiana

*Wave Goodbye to Energy Loss*

**USIN06**

Central Indiana Regional Science and Engineering Fair

Hamilton Southeastern Junior High School, Fishers, Indiana

**Alexander Lloyd Shelby (Grade 8)**

Fishers, Indiana

*Gre-Cycling*

**USIN50**

Central Indiana Regional Science and Engineering Fair

Creekside Middle School, Carmel, Indiana

**Xuchen Wei (Grade 8)**

Carmel, Indiana

*A One-Step Test for Analysis of Stress*

**USIN11**

Lafayette Regional Science and Engineering Fair

West Lafayette Junior/Senior High School, West Lafayette, Indiana

**Sanjay Sastry Garimella (Grade 7)**

West Lafayette, Indiana

*The Contractile Protein: Effect of CaCl\(_2\) and EDTA on the Phloem System of a Broad Bean*

**Kansas**

**USKS50**

Kansas State Science and Engineering Fair

Anthony Middle School, Manhattan, Kansas

**Kendra Anne Geisbrecht (Grade 8)**

Manhattan, Kansas

*To Move or Not to Move: Does Diet Affect Mobility?*
Kentucky

USKY01 duPont Manual Regional Science Fair

Meyzeek Middle School, Louisville, Kentucky

Nivedha Loganathan (Grade 7)
Louisville, Kentucky

Pure - It

USKY02 Louisville Regional Science and Engineering Fair

St. Francis of Assisi Catholic School, Louisville, Kentucky

Analisa Marie Conway (Grade 8)
Louisville, Kentucky

Exploring Vinyl Flooring Cytotoxicity

USKY03 duPont Manual High School Science Fair

Meyzeek Middle School, Louisville, Kentucky

Gregory David Schwartz (Grade 8)
Louisville, Kentucky

How Does Plant Growth Affect Animal Populations in a Computer Model Simulation?

Ruchira Udara Sumanasekera (Grade 7)
Louisville, Kentucky

Can Yucca Root Extract Kill Ovarian Cancer Cells?

USKY05 Central Kentucky Regional Science and Engineering Fair

Lexington Traditional Magnet School, Lexington, Kentucky

Brenna Caroline Wallin (Grade 7)
Lexington, Kentucky

Acoustium Leviosa: Investigating the Lifting Power of Acoustic Levitation

Winburn Middle School, Lexington, Kentucky

Akhil Sai Kesaraju (Grade 8)
Lexington, Kentucky

The Effects of Calcium Hydroxide as Pretreatment in Cellulosic Ethanol Production

USKY50 Kentucky Science and Engineering Fair

North Oldham Middle School, Goshen, Kentucky

Benjamin Jiang (Grade 8)
Prospect, Kentucky

Balance Temperature, Efficiently
Louisiana
USLA01 Louisiana Region VII-Science and Engineering Fair

Carmel Hill School, Baton Rouge, Louisiana
Joshua Michael Courtney (Grade 8)
Baton Rouge, Louisiana
Condition Factors in Fish as Bioindicators of Oyster Over-harvesting in the Calcasieu Estuary

Glasgow Middle School, Baton Rouge, Louisiana
Anusha Zaman (Grade 7)
Baton Rouge, Louisiana
Betel Leaf and Tobacco Change the Gene Expression in Human Broncho-epithelial (BEAS-2B) Cells

USLA08 Greater New Orleans Science and Engineering Fair

Christian Brothers School, New Orleans, Louisiana
Stephen Marcus Larzelere (Grade 7)
Metairie, Louisiana
The Influence of Soccer Ball Cover Type on Ball Speed, Distance, and Accuracy Across Different Ground Surfaces

Maryland
USMD01 Anne Arundel County Regional Science and Engineering Fair

Southern Middle School, Lothian, Maryland
Eleana Maurine Downs Perez (Grade 7)
Lothian, Maryland
Latitude with Attitude: A Mathematical Model for Predicting Solar Cell Efficiency in Lothian, Maryland

USMD03 ScienceMontgomery

Roberto Clemente Middle School, Germantown, Maryland
Sreya Vangara (Grade 8)
Germantown, Maryland
Tracking Geomagnetic Storms

Takoma Park Middle School, Silver Spring, Maryland
Elliot S. Kienzle (Grade 8)
Bethesda, Maryland
An Examination of the Voltage Drop across the Farnsworth-Hirsch Fusor

Takoma Park Middle School, Silver Spring, Maryland
Noah Gabriel Singer (Grade 8)
Bethesda, Maryland
An Examination of the Voltage Drop across the Farnsworth-Hirsch Fusor

Takoma Park Middle School, Silver Spring, Maryland
Katherine Jean Wu (Grade 8)
North Potomac, Maryland
A Driver's Companion: Using EEG Waves and Eye Blinks to Prevent Drowsy Driving
<table>
<thead>
<tr>
<th>State</th>
<th>Region/Science Fair</th>
<th>School Name</th>
<th>City, State</th>
<th>Student Name</th>
<th>Grade</th>
<th>Title</th>
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</thead>
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<tr>
<td>Massachusetts</td>
<td>Massachusetts Region IV Science Fair</td>
<td>Andover West Middle School, Andover, Massachusetts</td>
<td>Andover, Massachusetts</td>
<td>Floyd S. Greenwood (Grade 7)</td>
<td>Grade 7</td>
<td>Selectively Breeding Nannochloropsis Microalgae to Become a Healthier Feed Stock for Freshwater Rotifers</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Massachusetts Region IV Science Fair</td>
<td>Triton Middle School, Byfield, Massachusetts</td>
<td>Byfield, Massachusetts</td>
<td>Alden Shea Giedraitis (Grade 8)</td>
<td>Grade 8</td>
<td>Project A.I.P: An Introduction to Artificial Intelligence and Autonomous Navigation</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Massachusetts State Science and Engineering Fair</td>
<td>Carlisle Public School, Carlisle, Massachusetts</td>
<td>Carlisle, Massachusetts</td>
<td>Karen Lin-lin Chen (Grade 8)</td>
<td>Grade 8</td>
<td>Nightlight: A Revolution in Greenhouse Technology</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Massachusetts State Science and Engineering Fair</td>
<td>Saint Michael School, North Andover, Massachusetts</td>
<td>North Andover, Massachusetts</td>
<td>Catherine Grace Devlin (Grade 8)</td>
<td>Grade 8</td>
<td>Which Two Dimensional Characteristic Most Affects Synesthesia?</td>
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<tr>
<td>Massachusetts</td>
<td>Massachusetts Region III Science Fair</td>
<td>St. James St. John School, New Bedford, Massachusetts</td>
<td>New Bedford, Massachusetts</td>
<td>Mariela E. Coholan (Grade 8)</td>
<td>Grade 8</td>
<td>How Thick Is Your Water?</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Massachusetts Region I Science Fair</td>
<td>Hopkins Academy, Hadley, Massachusetts</td>
<td>Hadley, Massachusetts</td>
<td>Aedan Stanley Cullen (Grade 7)</td>
<td>Grade 7</td>
<td>Lightning: A Faster, More Efficient Internet Browser</td>
</tr>
</tbody>
</table>
Massachusetts Region II State Science Fair

Gibbons Middle School, Westborough, Massachusetts
Kevin Hu (Grade 8)
Westborough, Massachusetts
A Ruby Sinatra Web Application for Genetic Simulation Using Cloud Data

Massachusetts State Science & Engineering Fair

Central Middle School, Quincy, Massachusetts
Charlotte Anne Nickerson (Grade 7)
Quincy, Massachusetts
Observations of Special Relativity

Michigan

Science and Engineering Fair of Metropolitan Detroit

Huda School & Montessori, Franklin, Michigan
Nadia H. Khan (Grade 8)
Bloomfield Hills, Michigan
Can a Diabetes Drug Fight Ovarian Cancer and Put a Woman on Mars?

Meads Mill, Northville, Michigan
Sohan Yadav (Grade 8)
Northville, Michigan
The Most Efficient Truss Bridge

Novi Middle School, Novi, Michigan
Arushi Arora (Grade 8)
Novi, Michigan
Colloidal Silver to the Rescue!

Orchard Lake Middle School, West Bloomfield Township, Michigan
Rishabh Parekh (Grade 8)
Farmington Hills, Michigan
I Can See! An Image Detection Algorithm on the Raspberry Pi that Helps the Visually Impaired

Minnesota

Rochester Regional Science Fair

Friedell Middle School, Rochester, Minnesota
Benjamin Joseph Chrepta (Grade 8)
Rochester, Minnesota
Improving and Testing Robotic Arm Kinesthetics with the Use of Processing, Kinect, and Arduino

Rochester Regional Science Fair

Friedell Middle School, Rochester, Minnesota
Pranav Kumar Anandarao (Grade 7)
Rochester, Minnesota
The Efficiency of Nano-Crystalline Titanium Dioxide Based Dye Sensitized Solar Cells Using Natural Dyes
John Adams Middle School, Rochester, Minnesota
**Andy John Eggebraaten (Grade 7)**
Rochester, Minnesota
*An A Study of Using Speech Recognition to Control a Robotic Hand*

USMN09  St. Paul Regional Fair

Friends School of Minnesota, Saint Paul, Minnesota
**Emilia Frances Topp-Johnson (Grade 8)**
Saint Paul, Minnesota
*Behind the Kernels: A Study of Five Fungal Endophytes and their Use in Biocontrol against the Common Maize Pathogen, Ustilago maydis*

USMN10  Twin Cities Regional Fair

Wayzata Central Middle School, Plymouth, Minnesota
**Karthik Papisetty (Grade 7)**
Plymouth, Minnesota
*Natural Hazard Risk Model for Different Countries in the World*

USMN10 and USMN50  Twin Cities Regional Fair and Minnesota Academy of Science State Science & Engineering Fair

Calvin Christian School, Edina, Minnesota
**Brittney Madyson Kuntz (Grade 7)**
Plymouth, Minnesota
*Differences in Chloride Concentration Levels in an Urban Stream by Season and Site*

Central Middle School, Eden Prairie, Minnesota
**Avni Jain (Grade 7)**
Eden Prairie, Minnesota
*Allergen Alert! An Innovation to Assist People with Finding Safe Food Choices*

USMN50  Minnesota Academy of Science State Science & Engineering Fair

Al-Amal School, Fridley, Minnesota
**Zohair Ismail Khan (Grade 6)**
Fridley, Minnesota
*The Effects of Thermal Insulation on Heat Retention: A Comparison of Popular Insulants with a Custom-made Corn Husk Insulant*

Friedell Middle School, Rochester, Minnesota
**Gaurav K. Behera (Grade 8)**
Rochester, Minnesota
*Peripheral Neuropathy Analyzing System*

Park Christian School, Moorhead, Minnesota
**Cameron Walker Knoll (Grade 8)**
Fargo, North Dakota
*Stop Treating Your Soil Like Dirt!*
Mississippi
USMS04

University of Southern Mississippi Region I Science and Engineering Fair

Oak Grove Middle School, Hattiesburg, Mississippi

Jonathan Andrew Myers (Grade 8)
Hattiesburg, Mississippi

The Effect of Ocean Acidification on the Bioluminescence of Pyrocystis fusiformis

Missouri
USMO04

Greater Kansas City Science and Engineering Fair

Harmony Middle School, Overland Park, Kansas

Vandita Garimella (Grade 8)
Overland Park, Kansas

Urease Inhibition by Cruciferous Plant Extracts: An Alternative Medicine Approach to Helicobacter pylori Infections

Trailridge Middle School, Shawnee Mission, Kansas

Bryce Aaron DeBok (Grade 7)
Shawnee, Kansas

Blow Wind Blow, Go Car Go: How Placement of Wind Turbines on a Vehicle Affect Total Energy Output of the Wind Turbines

USMO05

Missouri Tri-County Regional Science and Engineering Fair

Wentzville Middle School, Wentzville, Missouri

Alex Christian Faintich (Grade 8)
Lake Saint Louis, Missouri

In Seconds It Can Rain... Be Ready with Recycled Drains!

USMO07

Academy of Science – Greater St. Louis Science Fair

Wydown Middle School, Clayton, Missouri

Lydia Mariam Pinkhassik (Grade 7)
Clayton, Missouri

Dye-Loaded Nanocapsules in Paper-based Sensing Devices

Montana
USMT50

Montana Science Fair

East Middle School, Butte, Montana

Leif Charles Clark (Grade 7)
Butte, Montana

The Effects of Various Types of Interference on an Amplitude Modulation Broadcast

Kalispell Montessori Elementary, Kalispell, Montana

Lucas Lee Ritzdorf (Grade 6)
Bigfork, Montana

Pollution-detector Pi
Nevada
USNV03  Western Nevada Regional Science and Engineering Fair

Nevada Connections Academy, Sparks, Nevada
Ivan Anders Altunin (Grade 6)
Incline Village, Nevada
Red, White, Blue, Go!!

New Jersey
USNJ78  Chester Science Fair

Black River Middle School, Chester, New Jersey
Emily Milan Rea (Grade 8)
Chester, New Jersey
The Wonders of Wound Care

USNJ79  Bergen Science Challenge

Belhaven Middle School, Linwood, New Jersey
Sebastian Y. Chang (Grade 8)
Linwood, New Jersey
Design of a 3D Printed Pediatric Prosthetic Hand which Actuates with Wrist Extension and Flexion

New Mexico
USNM01  Central New Mexico Regional Science and Engineering Challenge

Albuquerque School of Excellence, Albuquerque, New Mexico
Nathaniel Julio Martinez (Grade 7)
Albuquerque, New Mexico
Highly Efficient Water Desalinization by Solar Energy Pipe Exchanger

USNM01  Central New Mexico Regional Science and Engineering Challenge
USNM50  New Mexico Science and Engineering Fair

Peralta Elementary, Los Lunas, New Mexico
Makayla Ruth Gates (Grade 6)
Peralta, New Mexico
Acoustic Levitation: The Wave of the Future

Roosevelt Middle School, Tijeras, New Mexico
Hannah Marie Linder (Grade 7)
Cedar Crest, New Mexico
Prevention of Enzymatic Browning in the Apple Industry

USNM04  Southwestern New Mexico Regional Science and Engineering Fair

Sierra Middle School, Las Cruces, New Mexico
Sanjiv Harikumar (Grade 8)
Las Cruces, New Mexico
Synthesis of Ferrofluids and their Ability to Form Different Shapes
USNM50  New Mexico Science and Engineering Fair
Los Alamos Middle School, Los Alamos, New Mexico
Ethan Finn Aulwes (Grade 8)
Los Alamos, New Mexico
The Future of Bluetooth Low Energy

New York
USNY01  Dutchess County Regional Science Fair
St. Mary School, Fishkill, New York
Abigail Elizabeth Gagnon-Vishnefsky (Grade 6)
Fishkill, New York
Technology Over Safety: How Dangerous Are Your Hand-held Devices?

USNY02  Long Island Science and Engineering Fair
Garden City Middle School, Garden City, New York
Brandon J. Gong (Grade 8)
Garden City, New York
A Method to Increase Plant Survival Rates in Low Water Conditions Utilizing the Absorbent Properties of Wheat Straw
Manhasset Middle School, Manhasset, New York
Elin C. Hu (Grade 8)
Manhasset, New York
The Effect of Antihistamines on Sleep Patterns of Drosophila melanogaster
West Hollow Middle School, Melville, New York
Rinni Bhansali (Grade 7)
Melville, New York
Are There Unfoldable Proteins in Dimension Three?

North Carolina
USNC02  North Carolina Central Region III Science Fair
USNC50  North Carolina State Science Fair
St. Timothy’s School, Raleigh, North Carolina
Lauren Ashley Barber (Grade 8)
Raleigh, North Carolina
Wave of the Future

USNC50  North Carolina State Science Fair
Hope Middle School, Greenville, North Carolina
Elijah Shuford (Grade 7)
Winterville, North Carolina
B.E.S.T: Bio-Ethanol for a Sustainable Tomorrow
J.N. Fries Magnet Concord, North Carolina
Nathan T. Suri (Grade 8)
Concord, North Carolina
Simulating the Lorentz Force
Ohio

USOH01 Southeastern Ohio Regional Science and Engineering Fair

Athens Middle School, Athens, Ohio
Sanjeev Melchizedek Gunawardena (Grade 7)
Athens, Ohio
What Factors Affect the Accuracy of GPS?

USOH01 and USOH50 Buckeye Science and Engineering Fair

Athens Middle School, Athens, Ohio
Shifra Rajani Narasimhan (Grade 7)
Athens, Ohio
Light Assisted Sugar Estimation Using Refraction

USOH02 Northeastern Ohio Science and Engineering Fair

Broadway Creek Homeschool Academy, Medina, Ohio
Kotaro Kojima (Grade 7)
Medina, Ohio
Novel Self-Sweeping Turbulent Cleanroom Technology

Incarnate Word Academy, Parma Heights, Ohio
Ashwin Veeramani (Grade 8)
North Royalton, Ohio
DNA Barcode Definition: Which Gene Sequence Is More Efficient in Identifying and Classifying Bacterial Pathogens - 16S rRNA, cpn60, or rpoB?

National Inventors Hall of Fame Middle School Center for Science, Technology, Engineering and Mathematics Learning, Akron, Ohio
Zachariah Edward Stone (Grade 8)
Akron, Ohio
A Home Engineered Centrifuge Can Produce High Quality Genomic DNA for Analysis Using NanoDrop Spectrophotometer and Gel Electrophoresis

Solon Middle School, Solon, Ohio
Alice Ming-Chi Wu (Grade 8)
Solon, Ohio
Which Seawall Provides the Most Protection against a Tsunami?
<table>
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<tr>
<th>Fair Name</th>
<th>School and Location</th>
<th>Student Name</th>
<th>Grade</th>
<th>Project Title</th>
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<tr>
<td>USOH02</td>
<td>Northeastern Ohio Science and Engineering Fair</td>
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<td>Pranav Indiresha Iyer (Grade 8) Impact Forces on the Knee while Running on Varying Gradients</td>
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<td>USOH50</td>
<td>Buckeye Science and Engineering Fair</td>
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<tr>
<td>USOH03</td>
<td>Miami Valley Science and Engineering Fair</td>
<td>Bellbrook Middle School, Bellbrook, Ohio</td>
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<td>Nathan Andrew Feix (Grade 7) Defending Buoyancy: Finding the Best Placement for Cargo on a Ship to Maximize Weight and Avoid Capsizing</td>
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<tr>
<td>USOH04</td>
<td>Montgomery County Science and Engineering Fair</td>
<td>St. Christopher School, Vandalia, Ohio</td>
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<td>Evan Robert Eichenauer (Grade 8) Can Fish Play Soccer?</td>
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<td>USOH10</td>
<td>University of Cincinnati Science and Engineering EXPO</td>
<td>Mason Middle School, Mason, Ohio</td>
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<td>Nidhi Iyanna (Grade 8) Phosphorus Recovery from Agricultural Run-off Using Magnetically Recoverable Calcium/Magnesium Based Composites</td>
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<td>Mason Middle School, Mason, Ohio</td>
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<td>Durga Prasanna Mishra (Grade 8) Solar Panels and Heat</td>
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<td>Mason Middle School, Mason, Ohio</td>
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<td>Natasha Saputra (Grade 8) Detergent Pollution Effect on Plant Growth: Is Green Detergent More Environmentally Friendly than Conventional Detergent?</td>
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<tr>
<td>USOH10 and USOH50</td>
<td>University of Cincinnati Science and Engineering EXPO</td>
<td>Mason Middle School, Mason, Ohio</td>
<td>8</td>
<td>Atneya Santosh Nair (Grade 8) The Effect of Temperature on the Performance of a Variety of Surfactants</td>
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<td></td>
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<td>Mason Middle School, Mason, Ohio</td>
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<td></td>
<td>Buckeye Science and Engineering Fair</td>
<td>National Inventors Hall of Fame Middle School Center for Science, Technology, Engineering and Mathematics Learning, Akron, Ohio</td>
<td>8</td>
<td>Jackson Kenneth Tankersley (Grade 8) The Effect of Wearing Earphones on Driving Performance</td>
</tr>
</tbody>
</table>
New Albany Middle School, New Albany, Ohio

Kavin Srikanth Vedamoorthy (Grade 8)
New Albany, Ohio
Genotoxicity of Crude Oil: Microenvironment Analysis and Biomarker Development Using Arabidopsis thaliana

Stanton Middle School, Kent, Ohio

Ian D.D. Mail (Grade 7)
Kent, Ohio
Comparing Altitude of Dimpled Nose Cone Rockets with Dimpled and Smooth Body Tubes

Sycamore Junior High, Cincinnati, Ohio

Nitin Pauletti (Grade 8)
Cincinnati, Ohio
Particulate Pollution Produced by Automobiles

Oregon

USOR04

Beaverton Science Expo

Highland Park Middle School, Beaverton, Oregon

Melinda Meilin Sun (Grade 7)
Beaverton, Oregon
Are We Still Evolving?: A Genetic Algorithm Study of Evolution

Meadow Park Middle School, Beaverton, Oregon

Naren Mallik Gaurav (Grade 8)
Beaverton, Oregon
Chaotic Antibiotic! Analysis of Biosorbents for the Removal of Ciprofloxacin in Surface Water

Stoller Middle School, Portland, Oregon

Yesh Sachin Godse (Grade 8)
Portland, Oregon
Using Shape Memory Alloys for the Development of Renewable Heat Engines and Other Applications

Stoller Middle School, Portland, Oregon

Kelly Jalin Han (Grade 8)
Portland, Oregon
Increasing Vitamin D in Agaricus bisporus (White Button Mushrooms) Using Colored Light

Stoller Middle School, Portland, Oregon

Arjun Raghav Somayazulu (Grade 8)
Portland, Oregon
Examining the Impact of Dye Protonation in a Dye Sensitized Solar Cell on Its Absorption Spectra and Power Generated

USOR04 and USOR50

Beaverton-Hillsboro Science Expo

Intel Northwest Science Expo

Stoller Middle School, Portland, Oregon

Arnob Das (Grade 8)
Portland, Oregon
A Novel Biocompatible Medical Implant Material
USOR07  Central Western Oregon Science Expo

Blanchet Catholic School, Salem, Oregon
Megha Nitin Joshi (Grade 7)
Salem, Oregon
AquaSol – Portable Solar Powered Water Filtration System

USOR50  Intel Northwest Science Expo

ACCESS Academy, Portland, Oregon
Leo Z. Deng (Grade 8)
Portland, Oregon
Development of Forest Fire Prediction Tool for the State of Oregon

International Connections Academy, Baltimore, Maryland
Aditya Diwakar Sivakumar (Grade 8)
Beaverton, Oregon
An Acoustical Investigation of Western Classical Music Theory

Meadow Park Middle School, Beaverton, Oregon
Divya Amirtharaj (Grade 7)
Beaverton, Oregon
Sequestrating CO₂ from Exhaust Gas

Meadow Park Middle School, Beaverton, Oregon
Medha Kumar (Grade 6)
Beaverton, Oregon
CO₂ Intake in Trees

Meadow Park Middle School (Summa North Academy), Beaverton, Oregon
Archita Nitya Harathi (Grade 8)
Beaverton, Oregon
Stove Watch

Oregon Episcopal School, Portland, Oregon
Aneesh Gupta (Grade 7)
Tualatin, Oregon
Character Recognition Using Bezier Curves

Stoller Middle School, Portland, Oregon
Aditya Jain (Grade 8)
Portland, Oregon
It’s a Matter of Life & Breath: An Improved Automated Diagnostic Tool for Lung Cancer Solitary Pulmonary Nodules (SPN) Detection Towards Population Based Screening

Stoller Middle School, Portland, Oregon
Deepto Mizan (Grade 8)
Portland, Oregon
How Does the Percent Concentration in a Corn-Syrup to Water Solution Affect Speed (in cm/seconds) through a Narrow Tube?

Stoller Middle School, Portland, Oregon
Muhammad Shahir Rahman (Grade 8)
Portland, Oregon
Effective Use of Gallium antimonide Thermopiles for Intelligent Cooking and Fire Prevention
Stoller Middle School, Portland, Oregon
Jacqueline Jia Xing Zhang (Grade 7)
Portland, Oregon
To Sleep or Not to Sleep? Effectiveness of Different Sleep Cycles on the Drosophila melanogaster

Valley Catholic Middle School, Beaverton, Oregon
Kirstin Ruth Lovely (Grade 8)
Beaverton, Oregon
Water out of Nowh ‘AIR’

Valley Catholic Middle School, Beaverton, Oregon
Nandini Tondamantham Naidu (Grade 8)
Tigard, Oregon
Treating Lung Cancer: By Manipulating Epidermal Growth Factor Receptor Signaling Pathways

Pennsylvania
USPA01 Capital Area Science and Engineering Fair

Eagle View Middle School, Mechanicsburg, Pennsylvania
Joshua Scott Silverman (Grade 8)
Mechanicsburg, Pennsylvania
The Mighty Electrolyte

USPA02 North Museum Science and Engineering Fair

Reynolds Middle School, Lancaster, Pennsylvania
Stephanie H. Hall (Grade 8)
Lancaster, Pennsylvania
Does the Color of Rosin Affect the Sound of a Violin?

New Jersey
USPA03 Delaware Valley Science Fairs

Carriagebrooke Academy, Voorhees, New Jersey
Nathanael Charles Costa (Grade 7)
Voorhees, New Jersey
Improving Readability Scales

Collegium Charter School, Exton, Pennsylvania
Anusha Kalavacharla (Grade 8)
West Chester, Pennsylvania
Understanding the Genetics and Bioinformatics of Drought Tolerance in Common Bean

Fernwood Avenue Middle School, Egg Harbor Township, New Jersey
Chinaza Katherine Asiegbu (Grade 8)
Egg Harbor Township, New Jersey
The Spices of Life: The Antimicrobial Effects of Natural Remedies on E.coli

Great Valley Middle School, Malvern, Pennsylvania
Abhinav Vetcha (Grade 8)
Frazer, Pennsylvania
The Oligodynamic Effect
Pennfield Middle School, Hatfield, Pennsylvania
Jonathan Guanghong Okasinski (Grade 7)
Harleysville, Pennsylvania
To See or Not to See: A Foray into DIY Quantum Entanglement

USPA04 Pittsburgh Regional Science and Engineering Fair

Blessed John Paul II Homeschool Science Cooperative, Wexford, Pennsylvania
Joseph Arogiam Anand (Grade 7)
Wexford, Pennsylvania
The Effects of Bisphenol A on Drosophila melanogaster

Dorseyville Middle School, Pittsburgh, Pennsylvania
Annika Frances Urban (Grade 7)
Pittsburgh, Pennsylvania
The Stethophone

Falk Laboratory School, Pittsburgh, Pennsylvania
Nadine Oury (Grade 7)
Wexford, Pennsylvania
Charger Power

Fort Couch Middle School, Upper St. Clair, Pennsylvania
Kevin X. Chen (Grade 8)
Pittsburgh, Pennsylvania
Graph Databases: A Leap in Data Organization and Retrieval

Ingomar Middle School, Pittsburgh, Pennsylvania
Nikhil Behari (Grade 8)
Sewickley, Pennsylvania
Latencies, Haptics, & Passwords

PA Cyber Charter School, Midland, Pennsylvania
Dilan Nath Gangopadhyay (Grade 6)
Venetia, Pennsylvania
Disinfecting Dangerous Drinking Water

The Ellis School, Pittsburgh, Pennsylvania
Emma Ashley Burnett (Grade 8)
Pittsburgh, Pennsylvania
Using Thermoelectrics to Harness Household Waste Heat

USPA05 Reading and Berks Science and Engineering Fair

Governor Mifflin Middle School, Shillington, Pennsylvania
Martin Anthony Thomas (Grade 8)
Shillington, Pennsylvania
The Effects of Sound Stimuli on Brown Marmorated Stink Bugs (Halyomorpha halys)

Puerto Rico

Academia San Ignacio de Loyola, San Juan, Puerto Rico

Stephen Joseph Campbell (Grade 6)
Guaynabo, Puerto Rico
Will Supplementing Candidatus Liberibacter asiaticus-Infected Hamlin Orange Trees with Compost Suppress Huanglongbing (Citrus Greening)?
TEPR10

SSO Regional Science Fair

Southwestern Educational Society, Mayagüez, Puerto Rico
Lex Tariq Feliciano Laracuente (Grade 8)
Mayaguez, Puerto Rico
Engineering Design for Solar Coffee Dryer Efficiency Improvement

South Carolina

USC03

Low Country Science Fair

Porter-Gaud, Charleston, South Carolina
Gelsey Elise Jaymes (Grade 7)
Mount Pleasant, South Carolina
No More Oyster Roasts?: Effect of Increasing Atmospheric Carbon Dioxide on Oysters

South Dakota

USD01

Northern South Dakota Science & Math Fair

Simmons Middle School, Aberdeen, South Dakota
Michael Andres Zaidel (Grade 8)
Hershey, Pennsylvania
Matter and Antimatter in the Visible Universe

Tennessee

USTN04

Southern Appalachian Science and Engineering Fair

Jefferson Middle School, Jefferson City, Tennessee
Lauren Elizabeth Eccles (Grade 7)
Jefferson City, Tennessee
Environmentally Apeeling? A Dual Focus Study Using Banana Peels for Copper Adsorption plus pH Effects

USTN06

Middle Tennessee Science and Engineering Fair

Meigs Magnet School, Nashville, Tennessee
Andrew Shuler Pelham (Grade 6)
Brentwood, Tennessee
The Effect of Material Stiffness on Capacity in an Origami Rainwater Collection System

Gabrielle Kaili-May Liu (Grade 7)
Nashville, Tennessee
Sodasonics: A Resonant Frequency Acoustic Lens

Texas

USTX01

Beal Bank Dallas Regional Science and Engineering Fair

Rice Middle School, Plano, Texas
Harshika Jha (Grade 7)
Plano, Texas
The Hangover that Lasts a Lifetime: Effect of Alcohol on Embryonic Development

Rice Middle School, Plano, Texas
Hrithik Jha (Grade 7)
Plano, Texas
The Hangover that Lasts a Lifetime: Effect of Alcohol on Embryonic Development
Uplift North Hills Preparatory, Irving, Texas

**Ishaan Manohar (Grade 8)**
Irving, Texas
*Magnet’elmet*

Uplift North Hills Preparatory, Irving, Texas

**Naman Jinen Adenwala (Grade 8)**
Irving, Texas
*Magnet’elmet*

**USTX01 and USTX50**
Beal Bank Dallas Regional Science and Engineering Fair

ExxonMobil Texas Science and Engineering Fair

Armstrong Middle School, Plano, Texas

**Nathan David Wille (Grade 8)**
Parker, Texas
*Burning Me Softly: A Study of the Effects of Fabric Softener on the Flame Resistance of Clothing*

Rice Middle School, Plano, Texas

**Yesh Satyajit Doctor (Grade 8)**
Plano, Texas
*Clean Green Bioplastics: An Investigation Into the World of Biodegradable Plastics*

Rice Middle School, Plano, Texas

**Kshitij Sachan (Grade 8)**
Plano, Texas
*Clean Green Bioplastics: An Investigation Into the World of Biodegradable Plastics*

Schimelpfenig Middle School, Plano, Texas

**Burzin Poras Balsara (Grade 8)**
Plano, Texas
*Watts Up with Waste?: An Investigation and Design of Microbial Fuel Cells*

**USTX03 and USTX50**
Fort Worth Regional Science and Engineering Fair

ExxonMobil Texas Science and Engineering Fair

Harmony School of Innovation- Carrollton, Carrollton, Texas

**Phillip Alan Boltan (Grade 8)**
Flower Mound, Texas
*Influence of Ionized Water on Plant Growth*

**USTX05**
Science Engineering Fair of Houston

McCullough Junior High School, The Woodlands, Texas

**Anthony Harrison Kedzierski (Grade 8)**
The Woodlands, Texas
*Rock ‘n’ Flow*

McCullough Junior High School, The Woodlands, Texas

**Andy Donghyun Kim (Grade 8)**
The Woodlands, Texas
*Enhanced Mixotrophic Growth of Chlorella vulgaris*
Westbrook Intermediate, Friendswood, Texas
**Amber Nha Chi Nguyen (Grade 8)**
Houston, Texas
*Can HUE See a Difference?*

USTX05 and USTX50
**Science Engineering Fair of Houston**
**ExxonMobil Texas Science and Engineering Fair**

McCullough Junior High School, The Woodlands, Texas
**Varsha S. Iyer (Grade 8)**
The Woodlands, Texas
*Which Catalyst Is on Your List? Biodiesel, More Efficient than Ever*

T. H. Rogers School, Houston, Texas
**Joshua Thomas Hew (Grade 7)**
Houston, Texas
*STOP in the Name of Science!*

USTX08 and USTX50
**South Plains Regional Science and Engineering Fair**
**ExxonMobil Texas Science and Engineering Fair**

Laura Bush Middle School, Lubbock, Texas
**Evelyn Marlo McCune (Grade 8)**
Lubbock, Texas
*Aero-Morphing*

USTX11 and USTX50
**Alamo Regional Science and Engineering Fair**
**ExxonMobil Texas Science and Engineering Fair**

Keystone School, San Antonio, Texas
**Nia Myfanwy Clements (Grade 8)**
San Antonio, Texas
*Addicted to Sugar? A Chemotaxic Study of Artificial Sweeteners on C. elegans to Predict Human Behavior*

Keystone School, San Antonio, Texas
**John Charles Wilkins (Grade 8)**
San Antonio, Texas
*Future Asteroid Mining of Ceres: The Effects of a Second Moon in Earth’s Orbit on Tides on the West Coast of the United States*

USTX15
**Coastal Bend Regional Science Fair**

Santa Gertrudis Middle School, Kingsville, Texas
**Miles Darden Mathis (Grade 7)**
Kingsville, Texas
*A Comparison of Feed Digestibility*
School of Science and Technology, Corpus Christi, Corpus Christi, Texas
Draven Musashi Schooler (Grade 8)
Corpus Christi, Texas
Going Fast Is a Drag

USTX50
ExxonMobil Texas Science and Engineering Fair

McCullough Junior High School, The Woodlands, Texas
Maya Krishnan (Grade 8)
The Woodlands, Texas
Which Catalyst Is on Your List? Biodiesel, More Efficient Than Ever

Rice Middle School, Plano, Texas
Wenyao Li (Grade 8)
Plano, Texas
The Invisible River: Extracting Water from Air

Utah
USUT04
Central Utah Science & Engineering Fair

Centennial Middle School, Provo, Utah
Sarah Elizabeth Argyle (Grade 8)
Provo, Utah
Nitrate Removal through Ion Exchange

Eaglecrest Elementary, Lehi, Utah
Michael Robert Petersen (Grade 6)
Lehi, Utah
From That . . . To This . . . By Freezing?

Rocky Mountain Middle School, Heber, Utah
Matthew Caison Carter (Grade 7)
Wallsburg, Utah
Planaria: Perky, Pokey, Puny, or Pudgy

Sego Lily Elementary, Lehi, Utah
Gage William Blackwell (Grade 6)
Lehi, Utah
Grandpa’s Table Top Antenna Might Be as Deaf as He Is

Traverse Mountain Challenger School, Lehi, Utah
Andy James Schlachter (Grade 6)
Draper, Utah
Designing and Validating a New and Inexpensive Method of Ozone Monitoring for Developing Nations

USUT05
Salt Lake Valley Science and Engineering Fair

J.E. Cosgriff Memorial Catholic School, Salt Lake City, Utah
Anna Lai-Jing Shum (Grade 8)
Salt Lake City, Utah
Parallax Powers

Midvale Middle School, Midvale, Utah
Peter William Vawdrey (Grade 8)
Draper, Utah
Various Sources of Irrigation Water on Macro and Micro Nutrient Uptake in Laurentia axillaris
Virginia

USVA01 Northern Virginia Science and Engineering Fair

George Washington Middle School, Alexandria, Virginia
Ana Luisa Tio Humphrey (Grade 7)
Alexandria, Virginia
Constructed Wetlands and the Removal of Fecal Coliform in Four Mile Run

USVA05 Central Virginia Regional Science Fair

Bedford Middle School, Bedford, Virginia
Hannah Mae Steele (Grade 8)
Bedford, Virginia
Which Materials Can Block the Most Space Radiation?

Rustburg Middle School, Rustburg, Virginia
William Chase Carlson (Grade 8)
Rustburg, Virginia
The Effect of Temperature on Neurons

USVA08 Western Virginia Regional Science Fair

Hidden Valley Middle School, Roanoke, Virginia
Meagan Marie Gillette (Grade 7)
Roanoke, Virginia
Using Pill Bugs as a Bioindicator Species: Dose-response Avoidance of Pill Bugs to the Carbamate Pesticide Sevin and the Fertilizer Miracle-Gro and Upregulation of an Unknown Pill Bug Protein

Lucy Addison Middle School, Roanoke, Virginia
Kaylee Rachelle Ho (Grade 8)
Roanoke, Virginia
The Allelopathic Effect of Alfalfa and Black Walnut on Tomato

USVA09 Tidewater Science and Engineering Fair

Gildersleeve Middle School, Newport News, Virginia
Bryce James Edwards (Grade 8)
Newport News, Virginia
Identifying Chemical Contaminants through the Use of a Spectrophotometer

Page Middle School, Gloucester, Virginia
Allison Rianne Klader (Grade 8)
Gloucester, Virginia
Effect of Soil Compaction in Relation to Granular Size of Soil Types

USVA10 Blue Ridge Highlands Regional Science Fair

Home School, Radford, Virginia
Blake Augustus Hall (Grade 8)
Radford, Virginia
Milk Replacer for Calves
Washington
USWA02  South Sound Regional Science and Engineering Fair
Aspire Middle School, Lacey, Washington
**Aditi Kumar (Grade 8)**  
Lacey, Washington  
*The Optimization of Microbial Fuel Cell Structure to Generate More Electricity*

Narrows View Intermediate School, University Place, Washington
**Isaak Phuntsho Caves (Grade 7)**  
University Place, Washington  
*Making Wind Energy More Efficient*

USWA02 and USWA50  South Sound Regional Science and Engineering Fair  
Washington State Science and Engineering Fair
Aspire Middle School, Lacey, Washington
**Shrey Aeron (Grade 6)**  
Olympia, Washington  
*Muddicity: Generate Electricity from Dirt*

USWA50  Washington State Science and Engineering Fair
Eastside Preparatory School, Kirkland, Washington
**Anisha Gauthami Mulumudi (Grade 6)**  
Snohomish, Washington  
*Effect of the Angle of Windshield on Flow Separation*

Home School, Issaquah, Washington
**Helen Claire Carson (Grade 8)**  
Issaquah, Washington  
*Investigating the Annual Formation of Water Ice Clouds at Mars Hellas Basin*

Meridian Middle School, Kent, Washington
**Caleb Daniel Bilodeau (Grade 8)**  
Kent, Washington  
*Broken Hydrogen Bonds*

Sequim Middle School, Sequim, Washington
**Brenden Alan Jack (Grade 7)**  
Sequim, Washington  
*What Caused Gertie to Gallop?*

Sequim Middle School, Sequim, Washington
**Sean Austin Weber (Grade 7)**  
Sequim, Washington  
*An Investigation of Variables which Affect HAB Development on the Pacific Coast of North America*

West Virginia
USWV01  West Virginia Eastern Panhandle Regional Science Fair
Musselman Middle School, Bunker Hill, West Virginia
**Sandrik Ian Tabidze (Grade 6)**  
Inwood, West Virginia  
*Box of Power to Go*
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