2025
Buckeye Science & Engineering Fair

Hosted by

CAS

A division of the
American Chemical Society

Sponsored by

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POWER
FOUNDATION ℠

Founded in 1891, The Ohio Academy of Science (OAS) is a membership-based, volunteer-driven, not-for-profit organization. The OAS is the leading organization in Ohio to foster curiosity, discovery, and innovation and to unite all who value education, science, engineering, technology, or their applications to benefit society. Our members are as diverse as the science taking place in Ohio, and our programs support STEM for pre-college and college students as well as scientific professionals.
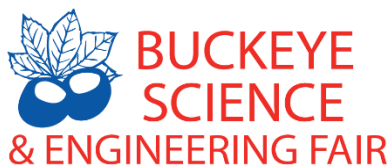
Thank you to our Community Sponsors!

THE OHIO ACADEMY
OF SCIENCE

BUCKEYE
SCIENCE
& ENGINEERING FAIR

Hosted by

CAS

Sponsored by

AMERICAN
ELECTRIC
POWER
FOUNDATION

2025 Schedule
March 1, 2025
Hosted by CAS,
2540 Olentangy River Rd.
Columbus OH 43202

8:00am	Arrival begins
8:45am	Students must be present and setting up in café
8:30am	Judges must be present
8:30-9:00am	Judge Orientation in Auditorium
9:00-11:00am	Judging: Round 1
11:30am-12:00pm	Awards in Auditorium
12-12:30pm	Judges/staff/volunteers' lunch
12:45-3:45pm	Judging: Round 2 Begins
3:45-4:00pm	ISEF Qualifiers announced

THANK YOU TO OUR JUDGES!

Erik Aagard, Hilliard OH
Raymond Aderoju, Athens GA
Adebunmi Adewusi, Bowling Green OH
Kolade Adeyemo, Austintown OH
Neel Agarwal, Columbus OH
Kehinde Agbaje, Chicago IL
Stanley Agbakansi, Tampa FL
Toluwalase Agbesoyin, Odessa TX
Chukwudi Tabitha Aghaunor, Pittsburgh PA
Mercy Ike Ajigah, Socorro NM
Bertha Akagbue, Huntington WV
Ahmed Akinsola, Clarksville TN
Ayomide Akinyemi, Charleston IL
Abraham Akiyode, Albany NY
Nickolas Andrioff, Columbus OH
Faiza Anjum, Dublin OH
Oluwatoyin Aromokeye, Englewood CO
Victor Arredondo, Cincinnati OH
Lucky Atabo, Cape Girardeau MO
Ezekiel Babatunde, Maryville IL
Kishore Bandela, Agawam MA
Amber Barron, Liberty Township OH
Morgan Barron, Knoxvile TN
Syed Basha, Dublin OH
Sheraz Bashir, Potsdam NY
Sandeep Batchu, Frisco TX
Anil Kumar Bayya, schumaburg IL
Marc Behrendt, Davenport FL
Chuck Bell, New Franklin OH
Sayani Biswas, Columbus OH
Vladimir Bogdanov, Columbus OH
Maggie Bohmer, Columbus OH
Aravind Reddy Boozula, Wyomissing PA
Jennifer Brees, Hamersville OH
Cassandra Brooks, Cleveland OH
Taylor Brooks, Bay Village OH
Eldon Buckner, Miamisburg OH
Tara Buckwalter, Powell OH
Madeline Buehler, Berlin Center OH
Sean Campbell, Columbus OH
Deepak Chanda, Sterling VA
Andy Chen, Powell OH

Prajwal Chinthoju, Carmel IN
Maria Corona, Blacklick OH
Bill Crawford, Dayton OH
Maria Fe Cruz Castillo, Columbus OH
Chad Cucksey, Worthington OH
Taylor Curley, Dayton OH
Hope Dangler, Waterville OH
Dalton Daniel, Columbus OH
Kaushal Darokar, Foothill Ranch CA
Rishabh Das, Athens OH
Bethany Davies, Cincinnati OH
Ceres Dbritto, Kirkwood MO
Spriha Deshpande, Santa Clara CA
Christopher Diak, Twinsburg OH
Olayide Dipeolu, Albany NY
Jacob Doon-Ralls, Columbus OH
Ruth Ebubechukwu, Pennsburg PA
Jameson Ehret, Hilliard OH
Toheeb Ekundayo, Albany NY
Moses Falowo, Manhattan KS
Azib Farooq, Oxford OH
Ben Fogarty, Dayton OH
Allison Foster, Columbus OH
Elizabeth Garfinkle, Columbus OH
Vishal Gaurav, Bellevue WA
Sushmita Ghosh, Tiffin OH
Sandesh Giri, Lafayette LA
Marissa Gittrich, Galloway OH
Ben Givens, Dublin OH
Ellen Gordon, Athens OH
Bidisha Goswami, Kirkland WA
Aidan Greene, Columbus OH
Srikanth Reddy Gudi, Charlotte NC
Santiago Guevara-Ocana, Columbus OH
Cherry Gupta, Columbus OH
Gary Halliday, Beavercreek OH
Pete Harlan, Dublin OH
Veronica Hart, Hilliard OH
Scott Hawkins, Sagamore Hills OH
Richard Higgins, Delaware OH
Jordon Hilliard, Columbus OH
Angela Howard, Circleville OH

Jieun Hur, Columbus OH
Udeme Idem, West Lafayette IN
Ruth Idowu, Louisville KY
Joy Ike, Enugu Nigeria
Robert Ireri, Oxford OH
Blessing Iweuno, Blacksburg VA
Landon Jackson, Columbus OH
Aidan Johantges, Marysville OH
Vinay Joshi, Lawrence KS
Rahmon Kanmodi, Salt Lake City UT
Medha Karri, Seattle WA
Christian Kemefa, Knoxville TN
Srinivasulu Harshavardhan Kendyala, Frisco TX
Dominic Kolonay, Columbus OH
Benedict Kongyir, Youngstown OH
Abla Kossidze, Pleasanton CA
Kenneth Kowalewski, Reynoldsburg OH
Gokulram Krishnan, Middletown DE
Richard Krock, Westlake OH
Rajesh Kumar, Kent OH
Prem Kushwaha, Cleveland OH
Aderemi Bunmi Kutelu, Campbell OH
Manoj Varma Lakhamraju, Charlotte NC
Matthew LaLama , Columbus OH
Jennifer Larson, Columbus OH
Folawe Augustina Layonu, Columbus OH
Carlos Leiva Sanchez, Columbus OH
Bogdan Leu, Blue Ash OH
Noah Levine, Columbus OH
Grace Lillie, Columbus OH
Kelsey Lloyd, Cincinnati OH
Veronica Loyo Celis, Columbus OH
Amanda MacRitchie, Dayton OH
Adeoye Makinde, Alimosho Lagos Nigeria
Brea McQueen, Hamilton OH
Bethany Merillat, Solon OH
Shubham Metha, Buffalo NY
Cathy Miller, West Chester OH
Laurie Miller, Columbus OH
Udit Misra, Sunnyvale CA
Prakhar Mittal, Mason OH
Khurram Yasar Mohammed, Austintown OH
David Moore, Salem OH
Vicki Motz, Deering NH
Selva Lakshman Murali, Austin TX
Madhavi Najana, Mason OH
Colleen Neal, Montgomery OH
Kelvin Njuki, Oxford OH
McKay Noll, Columbus OH

Kenneth Nwaojei, charleston IL
Isaac Obembe, Manhattan KS
Oluwaseye Odanye, Omaha NE
Adeyemi Odudimu, Bethlehem PA
Amos Ogunola, Athens GA
Olayemi Ojeokun, Mahattan KS
Bright Ojo, Fayeteville AR
Esther Okafor, Salt Lake City UT
Sidney Okiye, Windsor Mill Rd MD
Ernest Okoli, Abuja Nigeria
Ibukunoluwa Okunnuga, Atlanta GA
Chidinma Olorunnisola,
        Brandenburg an der Havel Germany
Peter Oni, Worcester MA
Enyinnaya Onuma, Auburn AL
Eunice Oyedokun, Ejigbo Osun Nigeria
Ari Pandian, Columbus OH
Parth Patel, null null
Rushilkumar Patel, Owings Mills MD
Ryan Paul, Willoughby OH
Emily Payne, Columbus OH
Cornelia Peterson, North Grafton MA
TK Prasad, Beavercreek OH
Sarah Pruitt, Columbus OH
Akul Rajan, Nashville TN
Ibrahim Raji, Oxford OH
Shivanjali Ranashing, Cincinnati OH
Rachel Reeves, Columbus OH
Brian Ritchie, Columbus OH
Hope Roush, Gallipolis OH
Prasanjit Sahoo, Dublin OH
Ryan Salata, Westerville OH
Haneen Salhieh, Springfield OH
Mary Sanger, Columbus OH
Andrew Sauer, Loveland OH
Catherine Saveson, New Albany OH
Craig Schluttenhofer, Wilberforce OH
Zachary Schneiderman, Dublin OH
Allison Secard, Columbus OH
Javeed Shaik, Mckinney TX
Heather Sheets, Mount Vernon OH
James Short, Bryan OH
Ayishetu Shuaibu, Benin City Nigeria
Karthik Sirigiri, Naperville IL
Brian Smith, Hilliard OH
Byungjae Son, Ada OH
Monica Staniszewski, Cincinnati OH
Ryan Steere, Athens OH
Mahmoud Suliman, Philadelphia PA

Kristi Tamkin, Columbus OH
Joel Tamkin, Columbus OH
Mahesh Thippani, Ofallon MO
Jenna Thuma, Columbus OH
Anayo Udeh, Lafayette LA
Osasenaga Usoh, Mesquite TX
Raksha Vashishta, Minneapolis MN
Santhosh Vijayabaskar, Mason OH
Surendra Vitla, Piscataway NJ
Matt Wallschlaeger, Johnstown OH
Hui Wang, Mason OH
Carolyn Watkins, Columbus OH
Hallie Webb, Columbus OH
Josh Welch, Coventry Township OH
Rachel Wells, Batavia OH
Sara Wenning, Grandview Heights OH
Madisson White, Columbus OH
Archana Yadav, Columbus OH
Balkrishna Yadav, Cleveland OH
Santosh Yerasuri, Edison NJ
Don Youel, Perrysburg OH
Mohammed Yusuf, Chelsea MA

THANK YOU TO OUR SPECIAL AWARD JUDGES!

THE AMERICAN PSYCHOLOGICAL ASSOCIATION AWARD
Dr. F. Scott Winstanley,
Dr. Chiaothong Yong

ASSOCIATION FOR WOMEN GEOSCIENTISTS AWARD
Amy Klei

NASA EARTH SYSTEM SCIENCE AWARD
Grant Lach

SOCIETY FOR IN VITRO BIOLOGY AWARD
Caleb Gooden
Lauren Levesque

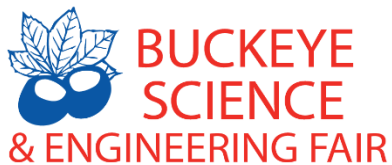### UNITED STATES AIRFORCE AWARD
Dr. Seth Faith

WATER ENVIRONMENT FEDERATION / STOCKHOLM JUNIOR WATER PRIZE
Dr. Eugene Braig

YALE SCIENCE & ENGINEERING AWARD
Dr. Mark Mahoney

Roster of Student Exhibitors

Laasya Acharya
Grade: 12
William Mason High School, Warren County
Implementing a Partial Least Squares Regression Model for the Precise Prediction of Soil Nutrients

Aryan Agarwal
Grade: 9
The University School, Cuyahoga County
Gravitational Waves and What They Can Tell Us

Sammy Armanazi
Grade: 10
The University School, Cuyahoga County
Notch Signaling Between Arterial Endothelial Cells and Smooth Muscle Cells Regulates Angiogenesis

Juhi Athavale
Grade: 11
Dublin Jerome High School, Dublin County
Exploring the Association between Skin Carotenoid Levels and Blood Pressure in children

Xander Bach
Grade: 10
The University School, Cuyahoga County
A Comparison of Distortion Levels of Various Speaker Cones Using REQ Software

Ayush Bag
Grade: 9
Beavercreek High School, Beavercreek County
Green Chemistry- Bioplastics from Food Waste

Anneysha Arunima Bahar
Grade: 12
Ottawa Hills High School, Lucas County
Is Age Just A Number? Flux Ratios Of Antennae Galaxy To Categorize Age Of Star Clusters

Benjamin Bartyzel
Grade: 10
St Ignatius High School, Cuyahoga County
Do Gender Roles Affect How Teens Manage Stress and Maintain Wellness?

Nikhil Bhimireddy
Grade: 11
Olentangy Liberty High School, Powell County
Design and Testing of an Adjustable Functional Near-Infrared Spectroscopy (fNIRS) Cap

Cole Bruderly
Grade: 9
Southeast Local Schools, Portage County
Turning the electrocyte cells of an electric eel into a revolutionary power source

Margaret Burnett
Grade: 12
Sylvania Northview High School, Lucas County
Effect of Parameter Size on the Accuracy of Generative AI

Ethan Chan
Grade: 10
The University School, Cuyahoga County
Drink Me: A Study on the Effectiveness of Hydration Types on Athletic Performance

Molly Chhabra
Grade: 10
William Mason High School, Warren County
A Humanoid Shoulder Joint Replica for Enhancing PPG Sensor Fidelity in Hypertension Monitoring

Kayden Cuneo
Grade: 12
Sylvania Northview High School, Lucas County
Exploring Phosphatase Targets in Alzheimer's Disease

Evan Dan
Grade: 11
Solon High School, Solon County
Advanced Classification and Topic Modeling of Suicidal Ideation in Reddit Using Llama 3 and BERTopic

Pranav Das
Grade: 10
New Albany Intermediate School, Franklin County
Advanced Security System for the Visually Impaired

Ritav Das
Grade: 11
Dublin Jerome High School, Franklin County
The Effects of Chirality and Solvation on Polycatenanes: Drug Delivery Applications

Jack D'Cruz
Grade: 11
The University School, Cuyahoga County
Live-Cell Kinetic Assays Reveal that the TGF-β Inhibitor Vactosertib Suppresses T Cell Exhaustion

Lucas D'Cruz
Grade: 9
The University School, Cuyahoga County
Using Computer Vision to Identify Beech Leaf Disease at the University School Campus

Mia Dela Cruz
Grade: 12
Columbus School For Girls, Franklin County
Observing the Properties of Zinc Oxide and β-Gallium Oxide Semiconductors Using DRCLS and MCS

Jackson DeWitt
Grade: 11
Global Impact STEM Academy, Clark County
Impact of Native Indian Grass Blend (Sorghastrum nutans)
on Metal Contaminants in Soil

Helena Duselis
Grade: 9
Dayton Regional STEM School, Montgomery County
Students VS Artificial Intelligence (AI): Can Teachers Tell the
Difference?

Aubrey Ernst
Grade: 9 Team Project
Tippecanoe High School, Miami County
A Bump in the Road: Modeling Efficiency of School Parking Lots

Kyla Fallis
Grade: 12
Bath High School, Allen County
Electrogenic Bioconversion of Organic Waste: An Approach
to Household Energy Generation via MFCs

Rachel Finegan
Grade: 11
Dayton Regional STEM School, Montgomery County
Stressed Grandparents | Empowered Grandchildren

Kira Florek
Grade: 12
Mentor High School, Lake County
The Relationship Between Wind Speeds, Warning Tags, and
Distance to Maximum Damage Point and EF Scale Ratings

Isaiah Fuhr
Grade: 10
Rock Hill Sr High School, Lawrence County
Carassius Auratus Aquaponics: Sustainable Food
Production

Finn Genzman
Grade: 11
Ottawa Hills High School, Lucas County
Effects on Flex Pro Grip Training for Pitchers Data

Neil Gera
Grade: 10
William Mason High School, Warren County
Artificial Intelligence Road Hazard Object Recognition using
Neural Networks (AIRHORNN)

Keshav Goyal
Grade: 11 Team Project
Upper Arlington High School, Franklin County
Effects of Different Tightrope Angles on Thumb Metacarpal
Subsidence

Blessing Gyimah
Grade: 11
Horizon Science Academy Columbus, Franklin County
Effects of Reduced Indoor PM2.5, HCHO, TVOC, and CO2
Levels on Lung Capacity and Oxygen Saturation

Houssam Hajar
Grade: 12
Ottawa Hills High School, Lucas County
1 Provider vs. 2 Providers in a Free Clinic Setting

Kara Hale
Grade: 10
Miami East High School, Miami County
Artificial Intelligence vs. Human Intelligence: Can You Spot
the Difference?

Liam Hartley
Grade: 12
Milton-Union Middle School, Miami County
How Wire Material and Magnetic Rotor Rotational Speed
Affect Current Production in a Generator

Vaishnavi Illindala
Grade: 11
Olentangy High School, Delaware County
The Human Microbiome Analysis and its Effects Associated
with Type 2 Diabetes Mellitus (DM)

Audrey Jackson
Grade: 9 Team Project
Tippecanoe High School, Miami County
A Bump in the Road: Modeling Efficiency of School Parking Lots

Rebecca Jacob
Grade: 11
Solon High School, Solon County
Advancing Epileptic Seizure Prediction using a Machine
Learning-Based Wearable Device

Arjun Jain
Grade: 11 Team Project
Athens High School, Athens County
Effects of Different Tightrope Angles on Thumb Metacarpal
Subsidence

Mateo Johnson
Grade: 11
Metro Early College High School, Columbus County
Gyroscopic Rocket Stabilizer

Kara Jones
Grade: 12
Central Christian School, Kidron County
Sustainable technologies for reducing phosphorus leaching
using plant growth promoting rhizobacteria

Zaina Kamran
Grade: 11
Summit Country Day, Hamilton County
Investigating How Social Media Choice and Gender Impact
Emotions and Social Media Scrolling Habits

Harman Kaur
Grade: 11
Dayton Regional STEM School, Montgomery County
Exploring Paints to Delay Ice Nucleation of Airplanes, Wind
Turbines, and Ships

Lacey Koepfer
Grade: 11
Sylvania Northview High School, Lucas County
Dose-Dependent Effects of Ethanol and Nicotine on
Light/Dark Locomotion of Larval Zebrafish

Karina Krishnan
Grade: 11
Beachwood High School, Beachwood County
Predicting Rectal Cancer Outcomes using Clinical Data

Twayne Lai
Grade: 11
Ottawa Hills High School, Lucas County
The Effect of PKD2 Gene Mutation in Mammalian Cell
Division

Daniel Lee
Grade: 10
University School, Chagrin Falls County
APE2 Transgenic Mouse Model of Radiation Induced Brain
Injury

Daniel Lee
Grade: 11
Sylvania Northview High School, Lucas County
Gene Expression of Akkermansia Muciniphila Under
Estradiol

Grant Lee
Grade: 11
Solon High School, Solon County
Controlled Release of Extracellular Vesicles from Hydrogels
for Drug Delivery

Harhui Lee
Grade: 11
Sylvania Northview High School, Lucas County
The Impact of Soil Water Content on Induced Polarization

Nicholas Long
Grade: 11 Team Project
Rock Hill Sr High School, Lawrence County
AIrfoil Design Project

Sahand Maleki
Grade: 11
The University School, Cuyahoga County
A Novel Role of Crimpy, a Drosophila IGFBP, in the Etiology
of Neurodevelopmental Disorders

Matthew Mapley
Grade: 11
Dayton Regional STEM School, Montgomery County
Sugar Sense and Traps: How Do Snacks and Drinks Affect
Blood Sugar?

Ismael Masood
Grade: 9
The University School, Cuyahoga County
Does infection severity of Beech Leaf disease correlate to
beech tree population density abstract.

Adrian McKenzie
Grade: 9 Team Project
Dayton Regional STEM School, Montgomery County
Electrolysis of Water to Produce Propulsion for Aircraft and
Spacecraft

Akhil Medikonda
Grade: 11
Dublin Jerome High School, Franklin County
Using Speech Acoustics as Biomarkers in the Early
Detection of Early-Onset Parkinson's Disease

Sadhil Mehta
Grade: 12
Tippecanoe High School, Miami County
Prediction of Urban Heat Islands Using Machine Learning,
Markov Chain Modeling and Cellular Automata

Haasini Mendu
Grade: 12
William Mason High School, Warren County
A Multimodal Parkinsonian Tremor Monitoring and
Suppression System

Sullivan Meneghetti
Grade: 9
St Edward, Cuyahoga County
Sustainable Approach for Producing Iron without Carbon
Dioxide Emissions

June Monaco
Grade: 11
Sylvania Northview High School, Lucas County
Measuring a Protostellar Outflow in Orion

Anuki Mudalige
Grade: 9
Olentangy Orange High School, Lewis Center County
NeuroBreath: An AI-Powered Wearable Device for Stress
Reduction Using Mindfulness Techniques

Yara Musa
Grade: 11
Sylvania Northview High School, Lucas County
Exploration of Cobalt Complex Catalyzed C-H Dueteration
of 3-(Trifluoromethyl)Benzoic Acid

Adharsh Narendrakumar
Grade: 11
St Ignatius High School, Cuyahoga County
Pulmonary Nodules: Utilizing Semantic Segmentation to
Identify Early Representations of Lung Cancer

Audrey Nixon
Grade: 11
Ottawa Hills High School, Lucas County
Effects of toxic algae on plant growth and function

Maxwell Opel
Grade: 11
Sylvania Northview High School, Lucas County
Effects of Cyanobacterial Toxins on Nitrogen Uptake and
Assimilation of Plants

Samhita Paranthaman
Grade: 9
William Mason High School, Warren County
A Novel & Cost-effective Strategy to Adsorb and Remove
Microcystins Released by Harmful Algal Blooms

Keeran Patel
Grade: 10
Springboro High School, Springboro County
Using Electrostatic Simulations to Model Ion Engines to Help
Predict Maximum Output Velocity

Shiv Patel
Grade: 12 Team Project
Anderson High School, Hamilton County
Optimizing Vertical Axis Wind Turbines for Urban Settings

Siya Patel
Grade: 12 Team Project
Anderson High School, Hamilton County
Optimizing Vertical Axis Wind Turbines for Urban Settings

Sur Patel
Grade: 12 Team Project
Anderson High School, Hamilton County
Optimizing Vertical Axis Wind Turbines for Urban Settings

Ananya Pise
Grade: 10
Olentangy Liberty High School, Powell County
Predicting Seizure Onset in Epilepsy Through EEG and
Glutamate Excitotoxicity Relations Using RNNs

Charlie Pochet
Grade: 11
Dayton Regional STEM School, Montgomery County
Super Sniffer: FAA Compliant Open Drone ID Broadcast
Reception, Parsing, and Integration

Griffin Quigley
Grade: 10
The University School, Cuyahoga County
The Turbine: A Combustionless Motor

Shrividya Regadamilli
Grade: 11
Hathaway Brown, Shaker Heights County
Assessing the Synergy of Corticosteroids and HER3
Inhibition in Metastatic Pancreatic Cancer

Rebekah Repp
Grade: 12
Sylvania Northview High School, Lucas County
Analyzing Historic Precipitation and Streamflow Trends in
the Great Lakes Region

Caleb Ricketts
Grade: 12
Springfield-Clark CTC, Springfield County
Fabric Theory

Ryan Riddle
Grade: 11 Team Project
Rock Hill Sr High School, Lawrence County
AIrfoil Design Project

Niklas Rietsch
Grade: 12
The University School, Cuyahoga County
The Role of Primary Cilia in Parkinson's and Huntington's
Disease

Shayaan Shahnaz
Grade: 11
Ottawa Hills High School, Lucas County
Dual Inhibition of ER Stress and Neuroinflammation to
Enhance Recovery in Hemorrhagic Stroke

Anshul Sharma
Grade: 11
The University School, Cuyahoga County
The Effect of Changes in Social Vulnerability Index on
Survival Rate Changes for Six Common Cancers

Bryan Shin
Grade: 11
Solon High School, Solon County
Enhancing Blood-Brain Barrier Penetration of Nanoparticle
with Toxin-derived Peptides

Zakarias Shishehbor
Grade: 10
Hawken School, Geauga County
Air Pollution Paradox: An Analysis of US total CO_2 and Air
Pollution

Prahalyaraksha Sitaram
Grade: 10
Olentangy High School, Delaware County
Evaluation of a four-pronged approach to measure
relatedness between plant species

Quinton Smith
Grade: 11
Ottawa Hills High School, Lucas County
Space-Based Efficiency in Tandem Perovskite Solar Cells-
Quinton Smith

Collin Snider
Grade: 12
Tippecanoe High School, Miami County
Ion the Prize: Turbojet Efficiency

Sarang Srikanth
Grade: 9
William Mason High School, Warren County
Analysis of filtration & dual-gen in Archimedes Screws to
increase efficiency and water quality

Nandita Srikumar
Grade: 11
Solon High School, Solon County
EGCG: Novel Therapeutic Product Inhibits CDK5-Mediated
Phosphorylation of CRMP2 & Tau in Alzheimer's

Dana Stan
Grade: 12
New Albany Intermediate School, Franklin County
Mix it Up! Reinventing Concrete with Plastic

Pranya Vaddadi
Grade: 11
William Mason High School, Warren County
Predicting Neurological Decline from Multimodal Data Using
Neural Networks

Ela Van Oss
Grade: 9 Team Project
Tippecanoe High School, Miami County
A Bump in the Road: Modeling Efficiency of School Parking Lots

Dylan Vance
Grade: 12
Benjamin Logan High School, Logan County
Synthetic Micro-polymers In a Local Freshwater Ecosystem

Vatsal Varshney
Grade: 9 Team Project
Dayton Regional STEM School, Montgomery County
Electrolysis of Water to Produce Propulsion for Aircraft and
Spacecraft

Ashley Wang
Grade: 12
Ottawa Hills High School, Lucas County
Aversive Childhood Experiences Impact PTSD Development
by Altering Amygdala Volume in Acute Trauma..

Robert Whittington
Grade: 11
Zane Trace High School, Ross County
MgC Battery

Sophia Wu
Grade: 11
Columbus Academy, Gahanna County
Decoding the Role of Histone H2AX in Glioma Stem Cells

Koyuki Yagi
Grade: 12
Columbus School For Girls, Franklin County
Effects of Laser Power and Speed on Weld Penetration and
Microstructure of 304L Stainless Steel

Ahsan Zamir
Grade: 11
Sylvania Northview High School, Lucas County
High Resolution photoluminescence Imaging of Solar cells
Under rRealistic Conditions

Steven Zhang
Grade: 10
Olentangy High School, Delaware County
Sodium Ascorbate in Treating and Preventing Chemical
Conjunctivitis Caused by Chlorine Exposure

Elena Zhu
Grade: 11
Upper Arlington High School, Franklin County
Intracellular Calcium Oscillation Promotes Migration and
Invasion of Liposarcoma Cells

Michael Zhu
Grade: 11
The University School, Cuyahoga County
Novel Flexible Substrate-Based 2D MoS2 Devices and Novel
ILG MoS2 FETs on Flexible Substrates

USOH50 ISEF 2024 Delegation

REGENERON
ISEF
A PROGRAM OF
SOCIETY FOR SCIENCE
COLUMBUS | 2025

VOLUNTEER | JUDGE | INTERPRET

ABOUT REGENERON ISEF

The Regeneron International Science and Engineering Fair (ISEF) is the world's largest international pre-college science competition. Regeneron ISEF provides an annual forum for more than 1,800 students in grades 9–12 from nearly every state in the U.S. and more than 60 countries, regions and territories to showcase their talent on an international stage. Each year, millions of students worldwide compete in science fairs; winners go on to participate in more than 425 Society-affiliated fairs from which the best win the opportunity to attend ISEF, to be held at the Greater Columbus Convention Center, **May 10–16, 2025**. These top young scientific minds will come together to showcase their talent on an international stage, be judged by doctoral-level scientists, and compete for more than $8 million in awards during ISEF.

WHY VOLUNTEER AT REGENERON ISEF?

- Gain personal satisfaction and inspiration by supporting motivated future scientists and engineers
- Advance STEM education in your community
- Earn community service or outreach credit from your business, school or institution

HOW YOU CAN HELP

BECOME A JUDGE

Approximately 1,000 judges are needed for 22 scientific disciplines. Judging will take place from **Tuesday, May 13 and Wednesday, May 14, 2025**. Judges must have a minimum of six years related professional experience beyond receiving a B.A., B.S., or Master's degree OR a Ph.D., M.D., or equivalent (D.O., Ed.D., D.D.S., D.V.M., etc.) OR is a current graduate student with more than four years of doctoral-level research experience or who is within one year of doctoral dissertation defense.

VOLUNTEER TO INTERPRET

About 200 interpreters in over 25 languages are needed to work with students throughout the week in various ways. The greatest need for interpreters is during judging on **Wednesday, May 14, 2025**. The day begins at 7:00 a.m. with a breakfast where interpreters and finalists meet to discuss their project and language needs for the day. Many of the students are fluent in English but would like interpreters just in case. There will be four-hour shifts throughout the day until about 4:00 p.m.

The greatest need for languages includes Spanish, Arabic and Mandarin. Other languages needed include Bahasa Malaysia, Cantonese, Czech, Filipino, Finnish, French, German, Gujarati, Hindi, Hungarian, Indonesian, Italian, Japanese, Kazakh, Korean, Mandarin, Polish, Portuguese, Romanian, Sinhala, Slovak, Thai, Turkish, Urdu and Vietnamese.

SERVE AS A VOLUNTEER

More than 500 general volunteers for a variety of activities are needed during the week, beginning **Thursday, May 9–Friday, May 16**. Daytime, evening and weekend shifts are available for everyone ages 14–99! On-site training provided.

We look forward to your support at Regeneron ISEF in-person in Columbus.

SOCIETY FOR SCIENCE