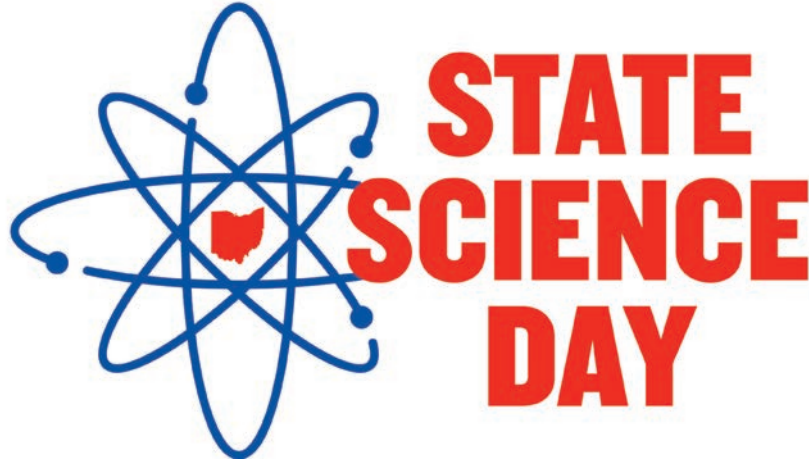


76TH ANNUAL

THE OHIO ACADEMY OF SCIENCE



2024

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Copyediting and design—Alex Justice

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WHAT IS STATE SCIENCE DAY?



Now in its 75th year and with more than 70,000 alumni, State Science Day is the pinnacle of student originated, inquiry-based science education for Ohio's students. The academic equivalent of a state athletic championship, this year's event is one of the largest of its kind in the nation. Drawing upon a base of over 10,000 students, 614 students in grades 5–12 from 187 schools will be evaluated on their scientific research and communication skills. They will compete for \$400,000 in scholarships and awards.

First held in 1949, the 75th Annual State Science Day is sponsored by: The Ohio Academy of Science, The American Electric Power Foundation, Battelle, Broadcom, CAS, Charles River Laboratories, Kent State University, Kokosing, OhioEPA–The Ohio Environmental Education Fund, the Ohio Tuition Trust Authority–College Advantage, Amgen, and Taft.

<https://ssd.ohiosci.org/>

CONGRATULATIONS TO ALL EXHIBITORS

The investment of time in pursuing an independent research project in science pays generous returns to each student. By honoring hundreds of projects with nearly \$400,000 in sponsored awards and scholarships, we seek to honor all exhibitors for their hard work. Please accept our sincere congratulations on your outstanding work and our encouragement to continue your interest in scientific research. Thank you for participating in this year's State Science Day.

MICHAEL E. WOYTEK, Executive Director

FUTURE SSD DATES

To Be Announced



ABOUT THE SPONSORS

AMERICAN ELECTRIC POWER FOUNDATION

The American Electric Power Foundation is funded by American Electric Power and its utility operating units. The Foundation provides a permanent, ongoing resource for charitable initiatives involving higher dollar values and multi-year commitments in the communities served by AEP and initiatives outside of AEP's 11-state service area. The Foundation focuses on improving lives through education from early childhood through higher education in the areas of science, technology, engineering and math, and by meeting basic needs for emergency shelter, affordable housing and the elimination of hunger. Other foundation support may be offered to protect the environment, support healthcare and safety, and enrich life through art, music and cultural heritage. | aep.com

AMGEN

Amgen harnesses the best of biology and technology to make people's lives easier, fuller, and longer. With roots in the biotech revolution, we are one of the world's leading independent biotech companies - fighting the toughest diseases and helping millions of people globally. Amgen's manufacturing capabilities ensure that we can reliably produce our life-saving products with the goal of reaching every patient, every time. Amgen's new final assembly and packaging facility in Central Ohio will assemble, label, and package autoinjectors, vials, and syringes to support the growing demand for Amgen's medicines. The new facility will be Amgen's most digital advanced facility, leveraging the latest innovations in manufacturing, while still prioritizing sustainability and minimizing environmental impact.

BATTELLE

Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio, Battelle serves customers in the national security, health and life sciences, and energy and environmental industries. Battelle also is one of the nation's leading charitable trusts focusing on societal and economic impact, vigorously supporting and promoting science, technology, engineering and mathematics (STEM) education. Battelle believes STEM education is an urgent national priority that requires bold goals, higher standards and greater accountability in our educational system to better prepare our nation's K-12 students for careers in science and technology that ultimately enhance the U.S. innovation enterprise. | battelle.org

BROADCOM FOUNDATION

Broadcom Foundation's mission is to advance STEM education and increase equity and access in STEM education, especially for young women and underrepresented youth. The foundation's sponsored programs create volunteer opportunities for employees and mentors and strengthen social responsibility and global citizenship. A primary goal of the foundation is to encourage youth to learn coding as a skill and universal language of the future that opens opportunities for exciting careers in STEM fields. | broadcomfoundation.org

CAS

CAS, a division of the American Chemical Society (ACS), was founded in 1907. Chemists around the world understood the value to research, in aggregating scientific information. Today we are a global organization of expert scientists, technologists, and business leaders with a long and successful history of harnessing scientific information opportunities. We provide trusted information solutions, including SciFinder®, STN® and custom services; for industry, government and academic institutions. | cas.org

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At Charles River we are passionate about our role in improving the quality of people's lives. Our mission, the excellent science that we perform, and our strong sense of purpose, guides us in all that we do. We approach each day with the knowledge that our research helps to improve the health and well-being of many individuals across the globe. Charles River Laboratories, which started as a one-man research models company, has grown into the world's largest preclinical contract research organization with a network of facilities across North America, Europe and Asia. This includes three laboratories in Ohio; Ashland, Cleveland and Spencerville. The worldwide support network allows us to act as a steadfast partner to our clients, from early molecule discovery to IND submissions. For more than 70 years we have seen technologies advance and new diseases emerge. To address these challenges, Charles River has carefully grown our portfolio of companies so that we can strategically anticipate tomorrow's drug development needs. While we can't predict what the future holds, we continue to kindle the spark that inspired our founding: an urgency to advance human health by supporting our clients' research, every step of the way. | criver.com

Continue on next page

ABOUT THE SPONSORS (CONT.)

HONDA

Honda has produced automobiles in Ohio for over 40 years, beginning in November 1982 with the start of automobile production at the Marysville Auto Plant. Honda established U.S. manufacturing operations in Marysville in 1979 with the start of motorcycle production. Today, nearly 13,000 associates support Honda manufacturing in Ohio, with five plants that represent a total capital investment of \$13 billion and the capacity to produce 680,000 Honda and Acura automobiles, 1.18 million automobile engines, and over 1 million automobile transmissions and two-motor hybrid systems, using domestic and globally sourced parts. Honda's five Ohio manufacturing facilities include three auto plants, the Marysville Auto Plant, East Liberty Auto Plant and Performance Manufacturing Center, as well as the Anna Engine Plant and transmission plant in Russells Point. In 2022, Honda announced plans to establish a new EV Hub for the start of EV production in the U.S. including a commitment to invest \$700 million to re-tool several existing auto and powertrain plants in Ohio for production of electric vehicles, as well as \$3.5 billion with LG Energy Solution to establish a joint venture battery plant in Fayette County, Ohio. Learn more at | <https://ohio.honda.com/>, or Honda's Digital FactBook.

KENT STATE UNIVERSITY

As one of Ohio's leading public universities, Kent State University is a major educational, economic and cultural contributor far beyond the Northeast Ohio region that we have served since 1910. The university has a global footprint with eight campuses across Northeast Ohio, a College of Podiatric Medicine, a Twinsburg Academic Center and academic sites around the world, including New York City; Florence, Italy; and Curitiba, Brazil. Our diverse student body comprises more than 33,500 students, including more than 2,000 international students from 101 countries, and our worldwide alumni family exceeds 273,500. Kent State is the highest-rank public university in northern Ohio on both the Top Public Schools and Best National Universities lists from U.S. News & World Report. The university also holds the esteemed distinction of being one of only five institutions in Ohio to be recognized as an R1 top-tier research university by the Carnegie Classification of Institutions of Higher Education. The addition of new learning environments from the sciences to the arts, along with the development of exciting new academic programs are characteristic of Kent State's strong focus on transformational educational experiences. Some of the newest additions to our academic offerings include degree programs for in-demand careers in such fields as engineering, aeronautics, business and entrepreneurship. At Kent State University we lead with our values, which include kindness, respect and freedom of expression in all we do. From academic success and professional development resources to advocacy and support, the university offers award-winning, holistic student support services that help students thrive in their studies and beyond. For more information about Kent State, visit www.kent.edu.

KOKOSING

Kokosing is one of the largest family-owned construction companies in the Midwest. Kokosing's primary business lines include industrial, transportation, buildings, pipelines, environmental and marine work. Additionally, Kokosing owns construction material supply companies. Known for unwavering integrity and exceptional safety and quality, Kokosing's companies provide extensive resources for its customers. Together with our team members, we invest our time and financial resources in the communities where we live and work. We strive to be socially and environmentally responsible and make a meaningful impact. | kokosing.biz

OEPA - THE OHIO ENVIRONMENTAL EDUCATION FUND

The Ohio Environmental Education Fund (OEEF), which is administered by Ohio EPA's Office of Environmental Education, provides grants for projects that increase awareness and understanding of environmental issues in Ohio. | epa.ohio.gov/oeef

OHIO TUITION TRUST AUTHORITY - COLLEGE ADVANTAGE, OHIO'S 529 COLLEGE SAVINGS PLAN

Recognizing the importance of higher education, Ohio became one of the first states in the country to offer a 529 college savings plan, starting in 1989. CollegeAdvantage, Ohio's 529 Savings Program, encourages families nationwide to start saving for future college costs in a tax-advantaged manner that can build the account. Ohio's 529 plan offers tax-free growth, tax-free withdrawals for qualified higher education expenses, and a deduction in state income taxes for 529 contributions per beneficiary, per year, for residents of Ohio. CollegeAdvantage sponsors two plans, the Direct 529 Plan or Advisor 529 Plan, that provide multiple investment options, including ready-made, age-based or ready-made, risk-based portfolios and FDIC-insured banking options. Contributions can start as low as \$25 and there's no fee to open a Direct 529 account. CollegeAdvantage is Ohio's 529 College Savings Plan, but the account can be used at almost any school that a child dreams to attend. Funds in a 529 plan can be used in state, out of state, or out of country, at any university, college, or technical school that accepts federal financial aid. CollegeAdvantage is consistently highly rated by trusted industry resources such as Morningstar and SavingForCollege.com. | collegeadvantage.com

INSPIRING THE NEXT GENERATION OF INNOVATORS

Innovation does not happen in a vacuum. To ensure that the pace of scientific innovation continues to improve the lives of countless individuals, we must support those who will make the next big discovery. The Amgen Foundation, the philanthropic arm of biotechnology company Amgen, is deeply committed to inspiring and preparing the next generation of innovators. By sparking a passion for science and supporting young people who pursue it as a career, we hope to fuel scientific innovation and create a brighter, healthier future for all. Visit www.AmgenFoundation.org

Learn more about our latest initiative! Developed at Harvard and supported by the Amgen Foundation, LabXchange is a free, virtual lab experience that integrates digital instruction with mentoring opportunities. Visit www.LabXchange.org

AMGEN Foundation

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WELCOME

WELCOME

By Martin English, D.V.M. President, The Ohio Academy of Science

The Ohio Academy of Science is pleased to welcome everyone to the 2024 State Science Day. The Science Day program builds from a base of more than 5,000 students and through local and district competitions, 582 projects advanced to State Science Day. These projects have been evaluated by qualified educators, scientists and engineers from colleges, universities, private industries, and medical facilities across the state, resulting in many scholarships and awards.

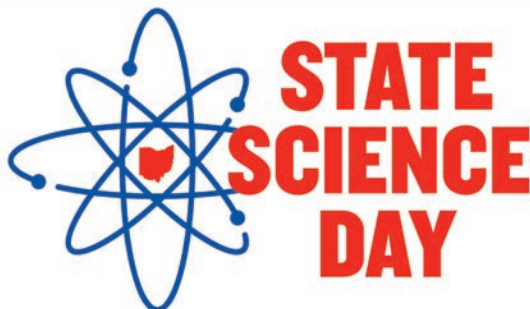
You may ask, “Why Science Day?” The completion of self-directed student research which follows best science & engineering practices, which is peer reviewed, and which gives appropriate recognition to the student, becomes the definitive way to create, encourage, and educate future researchers in the fields of science, technology, engineering & mathematics (STEM). This is exactly what the Science Day Program is designed to do. Science Day projects also conform to the inquiry-based science curriculum required in the newest Ohio education standards. Participating in the program can benefit students by increasing student interest and understanding of science, by providing career exploration opportunities, possibly resulting in many scholarships and awards for students, and it puts academics first by recognizing student achievement in the sciences. Local, County, District and State Science Days provide several levels of competition.

The Ohio Academy of Science Board of Trustees and the Junior Academy Council would like to thank all of the student researchers, their parents, teachers, school administrators, and research advisors as well as the hundreds of volunteer judges and many generous sponsors for making this educational program possible.



Martin E. English, D.V.M.

THE OHIO ACADEMY
OF SCIENCE



Future Scientists Start at Columbus State

- Future Scientists of Ohio Scholars Program offers full tuition scholarships for qualified students
- STEM Club provides guest speakers and field trips to explore STEM careers
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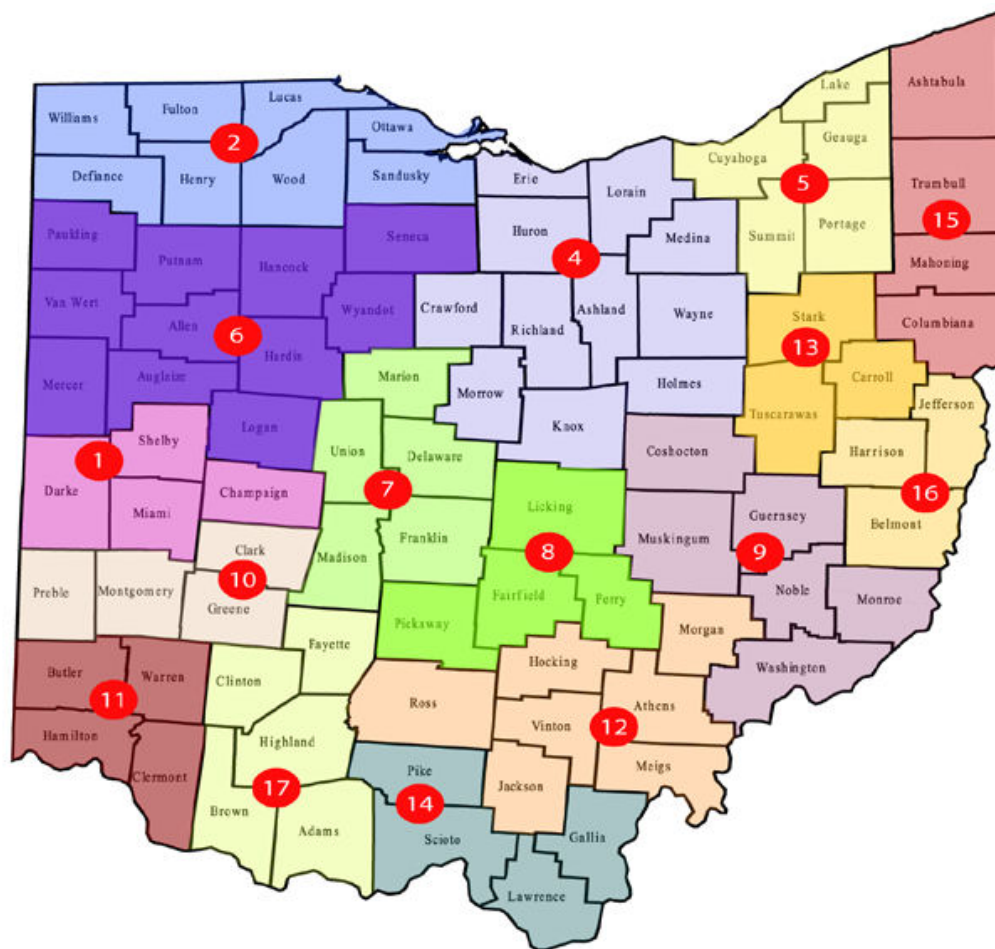
To learn more, visit
csc.edu/STEM

STEM

COLUMBUS STATE
COMMUNITY COLLEGE



DISTRICT SCIENCE DAY MAP



District Science Days

Participants for the 2024 District Science Day will register via [ProjectBoard](#). District Fairs will be held in-person. Be sure to visit your District's Science Day website for event schedule and additional information that may apply for the event. A virtual District Science Day will be held as "District 18".

To begin a project or to prepare to submit a project for the 2024 District Science Day students must **create or re-activation** last year's account in [ProjectBoard](#) by **January 19, 2024**. They will need a class code from their participating classroom teacher. If they are an independent student not connected to a classroom educator or afterschool facilitator, please contact the Ohio Academy of Science for your code at: info@ohiosci.org:

<https://projectboard.world/oas>

The *registration* deadline to have all required information in [ProjectBoard](#) for submission to the District Science Day is **February 26, 2024**.

The Ohio Academy of Science | 5930 Wilcox Place Ste. F | Dublin, OH 43016 | Phone: 614-389-2182 | Email: info@ohiosci.org

DISTRICT SCIENCE DAY MAP (CONT.)

The 2024 District Science Day registration fee is \$30.00 per student*

Registration fees can be paid by credit card here: <https://form.jotform.com/OhioScience/DSDpayment>

Schools wishing to pay for their students must contact the District Science Director before the February 26, 2024 deadline to confirm the school is paying the student registration fee. The school will need to provide a list of students. Registrations are NOT complete until payment is confirmed.

District # - Location and Date	Contact and Website	Type of Presentation @ DSD
1 – Edison State CC March 9, 2024	Dr. Martin E. English - info@ohioumvsd.com https://www.ohioumvsd.com/	a trifold, or a Quad chart poster (laptop space by request)
2 – Contact the Academy at info@ohiosci.org		
4 – Ashland Univ March 23, 2024	Dr. Jeffrey Weidenhamer - jweiden@ashland.edu https://www.ashland.edu/cas/mohican-district-science-day	a trifold, a Quad chart poster, or laptop at their table space
5 – Univ of Akron March 16, 2024	Dr. Ali Dhinojwala - ali4@uakron.edu https://www.uakron.edu/wrsd/	trifolds only
6 – Ohio Northern March 23, 2024	Dr. Jamie Siders - j-siders@onu.edu https://www.onu.edu/camps-and-events	a trifold, or a Quad chart poster
7 – Columbus State CC March 16, 2024	Dr. Matthew Saelzler - mraelzle@csc.edu https://www.csc.edu/docs/science/	trifold or laptop at their table space
8 – OU Lancaster* March 16, 2024	Ms. Holly Lavender - d8steeringcom@gmail.com https://district8scienceday.weebly.com/	a trifold, a Quad chart poster, or laptop at their table space
9 –*Contact the Academy at info@ohiosci.org		
10 – Miami Valley CTC March 16, 2024	Dr. Nick Weldy - District10ScienceDay@gmail.com https://www.ohiosci.org/district-science-day-district-10	trifolds only
11 – Univ of Cincinnati# March 9, 2024	Mr. Rickey Terrell - ucscifair@ucmail.uc.edu https://cech.uc.edu/about/southwest-ohio-science-fair.html	trifolds only
12 – Ohio Univ* March 23, 2024	Dr. Natalie Kruse - krusen@ohio.edu www.ohio.edu/scifair/	trifolds only
13 – Kent State Univ - Tuscarawas* March 9, 2024	Ms. Vey Wagner- vwagner6@kent.edu https://www.kent.edu/tusc/scienceday	trifolds only or laptop at their table space
14 – Univ Rio Grande* March 23, 2024	Dr. John Means - jmeans@rio.edu https://www.rio.edu/science-day	a trifold, a Quad chart poster, or laptop at their table space
15 – Youngstown State* March 16, 2024	Dr. Michael Serra - maserra@ysu.edu https://ysu.edu/lake-to-river	trifolds only
16 – Belmont College* March 23, 2024	Mr. Chris Clantz - cclantz@belmontcollege.edu https://www.ohiosci.org/district-science-day-district-16/	trifold or laptop at their table space
17 – Wilmington College* March 9, 2024	Ms. Mary Koshar - mary_koshar@wilmington.edu https://www.wilmington.edu/science-day/	trifolds only
18 – Virtual Science Day OAS office runs the event March 25, 2024	Mrs. Angela McMurry - amcmurry@ohiosci.org Central Office Phone 614-389-2182	Virtual event - Judges will review videos, abstracts, Quad Boards, and Final Reports

*Districts 8, 9, 12, 13, 14, 15, 16, and 17 registration fees are covered by a grant to the **Voinovich School of Leadership and Public Service at Ohio University**

#District 11 registration fees are covered by a University of Cincinnati grant

ACKNOWLEDGMENT OF SUPPORTERS

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If you, your company, foundation, or organization are interested in providing title sponsorship, general support, exhibits, scholarships, or sponsored awards, please contact:

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The Ohio Academy of Science
5930 Wilcox Pl., Suite F
Dublin, OH 43016
Phone: (614) 389-2182
Fax: (614) 389-2470
E-mail: mwoytek@ohiosci.org
Website: ohiosci.org

“

Bowling Green State University has given me the opportunity to make a change.

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Computer Science • Data Science
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Mathematics • Microbiology
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2024 OFFICIALS



The Ohio Academy of Science

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*Fostering curiosity, discovery and
 innovation to benefit society.*

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Love science? Fascinated by technology? The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES) invites you to visit either our Columbus or Wooster campus to learn about opportunities to pursue majors in science and technology. With 21 bachelor's degree majors, 24 associate degree majors, and 34 minors, CFAES has what you're looking for. You're sure to discover your passion for science and technology!

Schedule a Columbus campus visit at go.osu.edu/cfaesvisit or a Wooster campus visit at ati.osu.edu/visit.

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CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit cfaesdiversity.osu.edu. For an accessible format of this publication, visit cfaes.osu.edu/accessibility.



ACHIEVING ACADEMIC EXCELLENCE

As a premier institution in STEM, our renowned programs empower students through remarkable progress. From rubber chemistry and polymer science to biomedicine, biomimicry and chemical engineering, we've been at the forefront of ground-breaking research and innovation for more than a century.

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uakron.edu/visit

STAY CONNECTED



The University of Akron

BEGIN TO EXPLORE ...

Kent State University offers a world of educational opportunities in science, technology, engineering and math for learners of all ages!

From hands-on STEM camps for young learners as early as third grade to STEM-focused academic majors for undergraduate and graduate students, Kent State University is a place for exploration and discovery.

Our top-rated makerspaces and state-of-the-art facilities allow students to learn alongside educators who are leaders in their fields of study.

FASCINATING, EXCITING AND CLOSER THAN YOU THINK!

Some of the colleges that serve as the "academic homes" of STEM majors, minors, certificates and youth summer programs at Kent State, include:

- » Ambassador Crawford College of Business and Entrepreneurship
- » College of Aeronautics and Engineering
- » College of Architecture and Environmental Design
- » College of Arts and Sciences
- » College of Education, Health and Human Services
- » College of Nursing
- » College of Public Health
- » And all seven Kent State Regional Campuses

EXPLORE STEM LEARNING OPPORTUNITIES FOR STUDENTS OF ANY AGE

WWW.KENT.EDU/EXPLORESTEM



KENT STATE UNIVERSITY, KENT STATE AND KSU ARE REGISTERED TRADEMARKS AND MAY NOT BE USED WITHOUT PERMISSION. KENT STATE UNIVERSITY IS COMMITTED TO ATTAINING EXCELLENCE THROUGH THE RECRUITMENT AND RETENTION OF A DIVERSE STUDENT BODY AND WORKFORCE. 040019



2024 MULTI-YEAR STUDENTS

CONGRATULATIONS TO OUR 2024 MULTI-YEAR STUDENTS

Each year, the Academy recognizes the students who achieve State Science Day attendance for four years or more. Congratulations to these students as this is an incredibly difficult honor to achieve. Student names are listed alphabetically followed by grade level.

8-Year Awardee

Charley Clyne, 12
Wyatt Vick, 12

7-Year Awardee

Sadhil Mehta, 11
Dana Stan, 11

6-Year Awardee

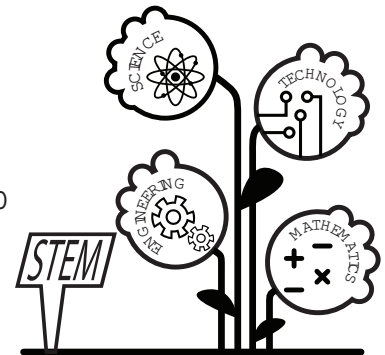
Winnie Bodin, 10
Michael Ge, 11
Kara Jones, 11
Addison Mullins, 11
Allison Payton, 10

5-Year Awardee

Laasya Acharya, 11
Tarun Batchu, 10
Xinrui Han, 12
William Kohut, 12
Aviraj Soin, 9
Robert Whittington, 10

4-Year Awardee

Aubrey Ernst, 8
Audrey Jackson, 8
Josie Jennings, 11
Vishvum Kapadia, 11
Haasini Mendu, 11
Elijah Moore, 8
Adharsh Narendrakumar, 10
Molly Prochaska, 12
Amaan Siddiqi, 10
Dhilen Soin, 8
Joseph Wright, 12



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For over 25 years, Ohio's soybean farmers have consistently supported education through free curriculum, teacher workshops, and a thriving professional network! **GrowNextGen.org** is Ohio's leading resource for growing future scientists.

Students!

Earn up to \$1000 for your science project!
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2023 STATE SCIENCE DAY AWARDS

2023 DR. LYNN E. ELFNER YOUNG SCIENTIST AWARDEES

The 2023 Dr. Lynn E. Elfner Young Scientist awardees selected for outstanding projects in grades 5 to 8. All received a superior award. Student names are listed alphabetically followed by grade level.

Annia Ameer
Sydney Biedenbach
Nathan Chege
Mukund Chimalakonda
Josiah Close
Elise Daniels
Scarlet Davis
Lucas D'Cruz
Brooke Dennis
Ella Dennis
Adalyn Eichmiller
Daniel Ennis
Ernesto Flores
Owen Goettel
Abby Groth

Maddie Hertrick
Carter Julian
Cierra Kasczak
Zach Krivis
Benjamin Landskroener
William Lawson
Caroline Lipp
Joshua Lothrop
Lea MacMichael
Sammy McGill
Abram Miller
Elijah Moore
Keeran Patel
Grace Ravasio
Aaron Rea

Isaac Reash
Amyah Riley
Liam Schnettler
Zia Siegel
Maeve Soltesz
Graham Stecker
Daniel Szczepanski
Carter Thomes
Rex Werner
Kendall Wild
Charles Zierolf

THE 2023 GOVERNOR'S THOMAS EDISON AWARDS FOR EXCELLENCE IN STEM EDUCATION AND STUDENT RESEARCH

Anderson High School, Cincinnati
Anna High School, Anna
Archbishop Alter, Kettering
Bellbrook Middle School, Bellbrook
Big Walnut Intermediate, Sunbury
Bishop Flaget, Chillicothe
Bishop Leibold E&W Campus, Dayton
Buchtel Community Learning Center, Akron
Carroll High School, Dayton
Chardon Middle School, Chardon
Dayton Christian School, Miamisburg
East Richland Christian School, St. Clairsville
Ellet CLC, Akron
Hyre CLC, Akron
Holy Angels, Sidney
Holy Trinity, Avon
I Promise School, Akron
Incarnate Word Academy, Parma Heights
Lehman Catholic High School, Sidney
Litchfield Community Center, Akron
Miller South VPA, Akron
National Inventor's Hall of Fam STEM HS, Akron

National Inventor's Hall of Fam STEM MS, Akron
New Lexington Middle School, New Lexington
North High School, Akron
Northeastern High School, Springfield
Ottawa Hills Junior/Senior High School, Ottawa Hills
River Valley High School, Bidwell
St. Agatha-St. Aloysius, Cleveland
St. Albert The Great, N. Royalton
St. Charles Borromeo High School, Kettering
St. Francis Xavier, Medina
St. Jude, Elyria
St. Mary, Chardon
St. Mary Immaculate Conception, Wooster
St. Paschal Baylon, Cleveland
St. Peter, N. Ridgeville
St. Sebastian, Akron
St. Raphael, Bay Village
St. Rose, Perrysburg
Sts. Joseph & John Interparochial, St. Clairsville
Sylvania Northview High School, Sylvania
Turpin High School, Cincinnati
Unioto ES, Chillicothe

2023 STATE SCIENCE DAY AWARDS (CONT.)

THOMAS EDISON AWARDS

SPONSORED BY: **Ohio** | Development Services Agency



THE 2023 GOVERNOR'S THOMAS EDISON AWARDS FOR EXCELLENCE IN...

Biotechnology & Biomedical Technologies

Grades 10-12

1st place – Sophie Zhuang, Dublin
2nd place – Kaitlyn Ernst, Chagrin Falls
3rd place – Samyuktha Iyer, Highland Heights

Grades 7-9

1st place – Bryan Shin, Solon
2nd place – Grace Ravasio, Cincinnati
3rd place – Amaan Siddiqi, Strongsville

Advanced Materials

Grades 10-12

1st place – Darelle Thornton, Akron
2nd place – Zoltan Kotrebai, Richmond Heights
3rd place – Kimberly Burk, Lancaster

Grades 7-9

1st place – Ethan Plageman, Carroll
2nd place – Daniel Szczepanski, Loveland
3rd place – Meghan Worpenberg, Loveland

Information Science & Technology Research

Grades 10-12

1st place – Laasya Acharya, Mason
2nd place – Logan Arnold, Xenia
3rd place – Deepthisri Paruchuri, Delaware

Grades 7-9

1st place – Tarun Batchu, Powell
2nd place – Vaishnavi Illindala, Delaware
3rd place – Evan Dan, Solon

Advanced or Alternative Energy

Grades 10-12

1st place – Zoltan Kotrebai, Richmond Heights
2nd place – Grace Chen, Mentor
3rd place – Sadhil Mehta, Tipp City

Grades 7-9

1st place – Emerson Babian, Springfield
2nd place – Aditya Varma Sangu, Delaware
3rd place – Hanano Austin, Athen



State Science Day, 2023

2023 STATE SCIENCE DAY AWARDS (CONT.)

2023 HAROLD C. SHAW MEMORIAL OUTSTANDING SCHOOL AWARD



A most-challenging prize, the celebrated Harold C. Shaw award is based on a rigorous group score of all participants from a school. The late Mr. Shaw (1915-1993) was a high school science teacher and long-time OAS Junior Academy Council member. Above, students accept the trophy on behalf of their school.

2023 Harold C. Shaw Awardees

Athens High School, Athens
Benjamin Logan High School, Bellefontaine
Dayton Regional STEM School, Dayton
Howland High School, Warren
Mason Middle School, Mason
Mentor High School, Mentor

Ottawa Hills High School, Ottawa Hills
Ridgewood School, Springfield
Solon Middle School, Solon
St. Columban, Loveland
Sylvania Northview High School, Sylvania
Trinity Lutheran, Toledo

THE OHIO TUITION TRUST AUTHORITY 2023 COLLEGE ADVANTAGE 529 PLAN AWARD

Alexandra Depenbrock - Ripley
Eli Eichmiller - Waterford
Ernesto Flores - Troy
Charles Gooch - Bridgeport
Joshua Lothrop - Columbus
Kate Marhefka - Gambier
Sammy McGill - Canal Winchester
Berea Miller - St. Clairsville

Micah Perry - Dayton
Dhruv Prasanna - Dublin
Rithvan Senthil - Plain City
Zia Siegel - West Unity
Eden Snow - Sidney
Maeve Soltesz - Westlake
Joshua Szolosi - Athens



SCHOLARSHIPS AND SPONSORED AWARDS

American Chemical Society Columbus Section - Chemical Sciences Award - 134

SPONSOR: AMERICAN CHEMICAL SOCIETY, COLUMBUS SECTION

American Water Works Association Award - 072

SPONSOR: AMERICAN WATER WORKS ASSOCIATION, OHIO SECTION

Animal Science/Veterinary Medicine Award - 256

SPONSOR: MARTIN E. ENGLISH, DVM

Association of Ohio Music Therapists - Psychology of Music/Music Therapy Award - 189

SPONSOR: ASSOCIATION OF OHIO MUSIC THERAPISTS

Association of Ohio Pedologists Soil Science Award - 262

SPONSOR: ASSOCIATION OF OHIO PEDOLOGISTS

Behavioral Science Award - 028

SPONSOR: OHIO PSYCHOLOGICAL ASSOCIATION; REGIONAL PSYCHOLOGICAL ASSOCIATIONS

Broadcom Coding with Commitment - 265

SPONSOR: BROADCOM FOUNDATION

David J. Horn Stone Lab Entomology Scholarship - 234

SPONSOR: OHIO STATE UNIVERSITY DEPARTMENT OF ENTOMOLOGY

Dick Goddard Honorary Young Atmospheric Scientist Award - 070

SPONSOR: AMERICAN METEOROLOGICAL SOCIETY; ERIC WERTZ; NORTHEAST OHIO AMS

DoD STEM Leadership Award - 261

SPONSOR: SOCIETY FOR SCIENCE & THE PUBLIC

Dr. Lynn E. Elfner Young Scientist Award - 246

SPONSOR: THE OHIO ACADEMY OF SCIENCE

Engineering Achievement Award - 059

SPONSOR: ENGINEERS FOUNDATION OF OHIO

EWI Award - 058

SPONSOR: EWI

Excellence Award for Civil Engineering Projects - 061

SPONSOR: AMERICAN SOCIETY OF CIVIL ENGINEERS, CENTRAL OHIO SECTION & OHIO COUNCIL

Food Science and Engineering Award - 031

SPONSOR: NESTLE PRODUCT TECHNOLOGY CENTER, MARYSVILLE

Future Physician - Scientist Award - 148

SPONSOR: THE OHIO STATE UNIVERSITY, COLLEGE OF MEDICINE AND PUBLIC HEALTH AND OSU HEALTH SYSTEMS

Gordon J. Aubrecht Award for Outstanding Physics Projects - 067

SPONSOR: THE AMERICAN PHYSICS SOCIETY - EASTERN GREAT LAKES SECTION & SOUTHERN OHIO SECTION OF THE AMERICAN ASSOC OF PHYSICS TEACHERS

Governor's Award for Excellence in Environmental Protection Research - 080

SPONSOR: OHIO ENVIRONMENTAL EDUCATION FUND

Governor's Thomas Edison Award for Advanced Materials - 106

SPONSOR: OHIO DEVELOPMENT SERVICES AGENCY

Governor's Thomas Edison Award for Advanced or Alternative Energy Scholarship - 217

SPONSOR: OHIO DEVELOPMENT SERVICES AGENCY

Governor's Thomas Edison Award for Excellence in Biotechnology & Biomedical Technologies - 033

SPONSOR: OHIO DEVELOPMENT SERVICES AGENCY

Governor's Thomas Edison Award for Excellence in Information Science & Technology Research - 147

SPONSOR: OHIO DEVELOPMENT SERVICES AGENCY

Green Energy Ohio Student Achievement Award in Advanced or Alternative Energy - 260

SPONSOR: GREEN ENERGY OHIO

Milt Austin Aquatic Science Award - 030

SPONSOR: OHIO CHAPTER OF THE AMERICAN FISHERIES SOCIETY

Nationwide Children's Hospital Research Institute Trainee Association (RITA) - 238

SPONSOR: NATIONWIDE CHILDREN'S HOSPITAL RESEARCH INSTITUTE TRAINEE ASSOCIATION (RITA)

Ohio Environmental Health Association Award - 087

SPONSOR: OHIO ENVIRONMENTAL HEALTH ASSOCIATION

Ohio Natural Energy Foundation Award - 139

SPONSOR: OHIO NATURAL ENERGY INSTITUTE

Ohio Northern University State Science Day Scholarship - 244

SPONSOR: OHIO NORTHERN UNIVERSITY

Ohio Soybean Bioscience Award - 018

SPONSOR: THE OHIO SOYBEAN COUNCIL FOUNDATION

Ohio Soybean Bioscience Team Award - 230

SPONSOR: THE OHIO SOYBEAN COUNCIL FOUNDATION

Osmon Ramsey Environmental & Natural Science Award - 258

SPONSOR: THE OHIO ACADEMY OF SCIENCE

Osteopathic Medical Award - 145

SPONSOR: OHIO OSTEOPATHIC ASSOCIATION

OTTA \$1,000 Scholarship - 239

SPONSOR: OHIO TUITION TRUST AUTHORITY

Outstanding Project in Plant Pathology - 182

SPONSOR: THE OHIO STATE UNIVERSITY DEPARTMENT OF PLANT PATHOLOGY

OWEA Water Environment Science Award - 086

SPONSOR: OHIO WATER ENVIRONMENT ASSOCIATION

OWEA Water Environment Science Award - 197

SPONSOR: OHIO WATER ENVIRONMENT ASSOCIATION

Peter G. Finke Water Management Award - 091

SPONSOR: WATER MANAGEMENT ASSOCIATION OF OHIO

Planet Earth Sustainability Award - 267

SPONSOR: SCIENCE ALLIANCE FOR VALUING THE ENVIRONMENT (S.A.V.E.) INC.

Plant Pathology Scholarship at The Ohio State University - 157

SPONSOR: THE OHIO STATE UNIVERSITY DEPARTMENT OF PLANT PATHOLOGY

SCHOLARSHIPS AND SPONSORED AWARDS (CONT.)

Science of Food - 169

SPONSOR: THE OHIO STATE UNIVERSITY DEPARTMENT OF FOOD SCIENCE & TECHNOLOGY

Society of Experimental Test Pilot Excellence in Flight Sciences - 247

SPONSOR: THE SOCIETY OF EXPERIMENTAL TEST PILOTS (SETP)

Society of Petroleum Engineers Award - 108

SPONSOR: SOCIETY OF PETROLEUM ENGINEERS, OHIO SECTION

Spirit of Science Award - 266

SPONSOR: McMURRY FAMILY

Statistical Analysis Award - 023

SPONSOR: AMERICAN STATISTICAL ASSOCIATION, COLUMBUS CHAPTER

Stone Laboratory Scholarship - 019

SPONSOR: THE FRIENDS OF STONE LABORATORY, THE OHIO STATE UNIVERSITY

The Lemelson Early Inventor Prize - 254

SPONSOR: THE LEMELSON FOUNDATION VIA SOCIETY FOR SCIENCE & THE PUBLIC

The Ohio Academy of Science President's Award for Outstanding Research in Science or Engineering - 268

SPONSOR: THE OHIO ACADEMY OF SCIENCE

The Ohio State University College of Engineering Scholarship - 218

SPONSOR: THE OHIO STATE UNIVERSITY COLLEGE OF ENGINEERING

Thermo Fisher Scientific Junior Innovators Challenge - 250

SPONSOR: SOCIETY FOR SCIENCE & THE PUBLIC

University of Akron Scholarship - 011

SPONSOR: UNIVERSITY OF AKRON

University of Toledo Science Achievement Scholarship - 012

SPONSOR: UNIVERSITY OF TOLEDO

Veterinary Medicine Award - 050

SPONSOR: OHIO VETERINARY MEDICAL ASSOCIATION

Thank You Award Sponsors and Judges!



The dedication and expertise of the judges makes it all possible! Above Carolyn Watkins of Ohio EPA (left) and Michael Woytek of OAS (right) pose with student awardees.



We support the development of the next generation of scientists and health providers.

The Research Institute's Trainee Association (RITA) is proud to sponsor the 8th Annual RITA Biomedical Research Award for high school students studying biomedical science or biobehavioral health.

RITA is comprised of graduate students, postdoctoral scientists and fellows in the Abigail Wexner Research Institute at Nationwide Children's Hospital.

The innovation and dedication of more than 150 trainees and over 250 investigators make Nationwide Children's a research leader in Ohio and around the world.

We're proud to support the next generation of scientists and the future of child health.

Discover more at NationwideChildrens.org/research





Alumni Association

If you attended State Science Day as a student...

We welcome you to

JOIN

the State Science Day Alumni Association.

There are *no fees* to join.

Sign up here: <https://form.jotform.com/OhioScience/science-day-alumni>

Alumni Benefits.

- Be recognized for career accomplishments. (Annual and lifetime achievement awards.)
- Be portrayed as a career role model to inspire and mentor students.
- Be invited for their professional knowledge to provide benefits to The Ohio Academy of Science such as judging at State, district, and local science days, reviewing manuscripts and annual meeting abstracts for *The Ohio Journal of Science*, evaluating scholarship applications and STEM education program awards.

Ways to Support STEM education

- Be given the opportunity to support the Annual Fund or specific activities like State Science Day, and the alumni group.
- Be an advocate for STEM education.
- Provide testimonials as to the value of participating in local, District and State Science Days.
- Provide The Ohio Academy of Science with contacts for corporations, foundations, governmental agencies, professional societies, and educational institutions.

This we believe.

Tens of thousands of Ohio students over nearly 90 years have benefited from participation in youth science opportunities including local, District and State Science Days of The Ohio Academy of Science. Early life experiences—like these—get under your skin in a most powerful way. These students' scientific and engineering knowledge and skills, as well as their academic accomplishments, were fostered by early access to professionals, public recognition of their work, and scholarships. Re-connecting these students—*now as alumni*—in meaningful STEM-related experiences such as judging and other interactions will bring them personal and professional satisfaction and assist The Ohio Academy of Science.

Letter to a Young Scientist

Patience, Persistence, and Learning from Failures will Prevent Naysayers from Having the Last Word

By STEPHEN W. KRESS, PhD¹

Dr. Stephen Kress, known widely as “Puffin Man,” is a native of Bexley, Ohio. He grew up poking around in the lakes, streams, woods, and parks of central Ohio, always seeking something new and interesting under that next rock or down that next trail. Early on he connected with mentors—including several individuals now considered to be legendary in the study of Ohio’s natural history—and took part in the Science Day events (science fairs) sponsored by The Ohio Academy of Science. Always benefiting from the collaborations with mentors and peers, he went on to attend The Ohio State University and received a PhD from Cornell University. After a few career twists and turns, his interests gradually focused on birds and bird conservation efforts. Dr. Kress started his decades-long “dream” career at the National Audubon Society in 1982 and has now become a world authority on seabird restoration and an advocate for public engagement in wildlife conservation. Retired, he lives in New York State.

I WAS NEVER MUCH OF A CARPENTER—a reality that explained why my childhood collection of snakes and salamanders often escaped the confines of their homemade cages in my family’s home in Bexley, Ohio. My Lithuanian-born grandmother would sometimes try to comfort my mother by saying, “don’t worry—he’ll outgrow this thing.” Wisely, my parents embraced my passion, even though it was totally foreign to their suburban lifestyle. Even though my mom would shriek when she encountered a snake on the stairs or a frozen bird tucked among pies in the freezer, she would still dutifully drive me to every nearby metropolitan park so that I could roam the swamps and streams looking for Fairy Shrimp, Wood Frogs, turtles, and the occasional Blue-tailed Skink.

I am convinced that peer companions who share the nature-loving gene are a key part of legitimizing and sustaining an interest in wildlife and the outdoors through childhood, adolescence, and beyond.

Fortunately, this was a simpler time when parents could let their children explore nature without worrying about their safety. Likewise, my dad, a businessman, unknowingly set me on my career path as a biologist by taking me on fishing adventures to local streams and farm ponds. I am sure my parents wondered what would become of their nature-loving son, but their support and encouragement was key to enabling my future life’s work.

Finding Early Peer Companions

My “partner in crime” for these youthful adventures was Howard (Mac) Albin, a neighborhood friend who shared my enthusiasm for wading into vernal pools, flipping rocks for Dusky Salamanders, and seining Big Darby Creek for darters. Without someone to share discoveries and revel in the glory of these beautiful places, I may not have discovered the Ohio countryside. Our friendly competition to best one another with our herpetological and fish collections was a big part of my motivation for exploring nearby streams and forests. Mac was always the hands-down winner of our dueling menageries, as he took care to notice habitat details and replicate these at home. His crowning accomplishment was a darter tank complete with motor-driven paddlewheels that created a riffle habitat so convincing that flamboyant Greenside Darters flourished there! I am convinced that peer companions who share the nature-loving gene are a key part of legitimizing and sustaining an interest in wildlife and the outdoors through childhood, adolescence, and beyond.



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As a ten-year-old, I was also fortunate to befriend interpretive naturalists at (what are now) the Columbus and Franklin County Metro Parks. Their “Junior Explorer” weekend program for kids gave me my first insight into a wide range of Ohio’s natural history, and eventually led to my first job tending the trailside wildlife menagerie at Blacklick Woods. Through these encounters, I realized that it was possible to have a nature-based outdoor career.

My focus on birds began in middle school when the Metro Park naturalists introduced me to some of Ohio’s legendary *Finding friends who shared my values and interests was key to sustaining my conservation biology career track.* naturalists, including Edward Thomas, Milton Trautman, and Irving Kassoy. Soon after, I joined the Wheaton Club, a group of central Ohio professional biologists who were thrilled to have a younger member in their mostly graybeard group.

Commending Stick-to-it-ness

I found far less inspiration within the public schools I attended, with the exception of my 7th grade science teacher Zale Thorla. This dynamic teacher encouraged me to enter the District Science Day that was (and still is) operated by The Ohio Academy of Science. For my project, I settled on building a chicken egg incubator from homemade items such as a wooden box and an incandescent light bulb. However, I was frustrated when batch after batch of eggs failed to hatch. I recall showing my latest hopeful incubator redesign to a cousin who told me “this will never work.” Incensed by his discouraging words, I became obsessed with proving him wrong. Doubling down with even more modifications to my homespun incubator, I vowed to keep at it until it worked. I was ecstatic when eggs finally began to hatch! So was Mr. Thorla, who commended my “stick-to-it-ness.” My egg-hatching contraption scored a red ribbon at the Science Day—but the real prize was the especially sweet taste of proving

My first position with Audubon was a humble summer dish-washing position at (what is now) the Greenwich Audubon Center in Greenwich, Connecticut.

my naysayer cousin wrong. From this experience I learned a key life lesson to share: persistence, patience, and the determination to continue following repeated failure is an important part of becoming a scientist. These qualities have served me well ever since.

Starting a Career by Washing Dishes

Following the advice of the Metro Park naturalists, I began college at The Ohio State University as a zoology major with an emphasis on natural history. My goal was working toward a master’s degree in wildlife management. In the basement of the Botany and Zoology Building, I found kindred spirits among the other undergraduates. My academic mentor was Dr. E. Eugene Good, who taught courses in wildlife management and served as faculty advisor to the “Field Biologists Forum”—a student group with whom I shared my passion for wildlife. This geeky group was less interested in Buckeye football than in searching for Spotted Salamanders in the nearby swamps. Just like the Junior Explorers and Wheaton Club, finding friends who shared my values and interests was key to sustaining my conservation biology career track.

My first position with Audubon was a humble summer dish-washing position at (what is now) the Greenwich Audubon Center in Greenwich, Connecticut. This and subsequent summer teaching positions with the Audubon camp in Wisconsin and the Sunbury Shores Arts and Nature Centre in St. Andrews, New Brunswick, led me to the Hog Island Audubon Camp in Maine in 1969. It was during these Audubon summers that I began thinking more deeply about wildlife stewardship and wildlife restoration.

Unexpected Detours and Opportunities

My plans for graduate school were abruptly changed in 1968 when the Vietnam War draft halted my progress toward an advanced degree. Rather than enlist, I accepted a position as assistant director of (what is now) the Glen Helen Outdoor Education Center—then part of Antioch College—in Yellow Springs, Ohio, which provided a teaching deferment. There I found that I enjoyed training the teacher-naturalists at Glen Helen, which also

LETTER TO A YOUNG SCIENTIST (CONT.)

offered resident outdoor education sessions for children. My passion for nature helped me find this oasis during an otherwise turbulent time. Glen Helen also provided a field lab for my master's degree research in wildlife management, where I studied the response of upland nesting birds to the disturbance caused by children on and off trails. I made the most of my four years at Antioch, teaching an ornithology class on campus and founding the Glen Helen Raptor Center, which thrives to this day. This sanctuary from the Vietnam War not only provided me with an opportunity to learn more about my own interests but also taught me an important lesson: look for and accept new opportunities that come your way, especially if they align with your interests.

From Side Project to Dream Position

My Antioch years set the stage for returning to graduate school in 1972. Cornell University was my first choice because of its reputation for excellence in ornithology. I was fortunate that Dr. James Tate, a Hog Island ornithology instructor, was also an assistant director at the Cornell Lab of Ornithology. With his encouragement, I was accepted into a PhD program within the Cornell Natural Resources Department. I initially hoped to follow my dream of restoring Atlantic Puffins to the Maine coast. But when Dr. Tate lost his position at Cornell, I instead decided to focus on the education interests I had acquired at Antioch. I switched to a major in outdoor education, while pursuing puffin restoration as a sideline. That "side" project blossomed into a full-time "dream" position with the National Audubon Society for the remainder of my career. Eventually I became vice president for bird conservation and founder of Project Puffin[®]. Now, 50 years later, I am retired from Audubon, but Project Puffin continues to thrive (Kress and Jackson 2015).

No Such Thing as a Straight Career Path

My career as a conservation biologist, environmental educator, author, speaker, and entrepreneur has taken me down unexpected and unexplored paths. My work in seabird restoration

involved inventing and demonstrating new management techniques such as seabird chick translocation and *social attraction*, the use of decoys and audio recordings to attract seabirds to safer nesting habitats. These techniques increase the number of safe nesting colonies, thus reducing the risk of extinction when "all the eggs are in one basket." These methods help reduce threats to seabird populations—including predators, human disturbance, and climate change. For many species, this can make the difference between survival and extinction. Beginning with our first project of restoring puffins to their historic home on Maine's Eastern Egg Rock, the use of these methods has now spread around the world, benefiting about a third of all seabird species (Spatz et al. 2023). Project Puffin has trained hundreds of early-career biologists and served as the focus of many articles and documentaries. It has prevailed despite the many naysayers, some of whom said it was impossible to bring puffins back to former nesting islands. In science, it is normal for new ideas to be challenged by critics and doubters. But if one learns from each failure, patience and persistence can yield extraordinary outcomes. The rewards of such success are sweet for those that follow their dreams.

Literature Cited

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- Spatz DR, Young LC, Holmes ND, Jones HP, VanderWerf EA, Lyons DE, Kress SW, Miskelly CM, Taylor GA. 2023. Tracking the global application of conservation translocation and social attraction to reverse seabird declines. *PNat Acad Sci USA*. 120(16):e2214574120. <https://doi.org/10.1073/pnas.2214574120>

Learn more about Project Puffin at:
<https://seabirdinstitute.audubon.org>

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Email: swk3@cornell.edu

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Mr Scott Hawkins, Sagamore Hills OH
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Dr Douglas Hubert, Doylestown OH
Munachukwuso Ibe, Bowling Green OH
Ms Ruth Idowu, Louisville KY
Mr Etinosa Igunbor, Gunnison CO
Mrs Mary Iheanacho, Victoria TX
Mr Newton Ihoeghian, Lexington KY
Mr Oluwaseun Ipede, Statesboro GA
Mr Peter Ishimaru, Louisville OH
Mrs Amarachukwu Isiaka, Doha Qatar
Ms Riyya Hari Iyer, Union City CA
Mr Terrin Jackson, Harrison OH
Mr Keith James, Columbus OH
Mr Abdullahi Jamiu, Blacksburg VA
Mr Razaq Jinad, Huntsville TX
Ms Catherine Johnson, Cincinnati OH
Dr Stephanie Johnson, New Albany OH
Ms Emily Jones, Panama City FL
Mr Deepak Jose, Springfield NJ
Mr Shenson Joseph, Missouri City TX
Ms Kate Juliani, Athens OH
Mr Shiva Prasad Jupally, Springboro OH
Mr Chaitanya Kumar Kairamkonda,
 Braintree MA
Ms Rofiat Kajola, Rochester NY
Dr Olajumoke Kalejaiye, Raleigh NC
Mr Vijaya Venkata Sri Rama Bhaskar
 Kamireddy, Prosper TX
Mr Anil Kancharla, Katy TX
Mr Pavan Kanchi, Queen Creek AZ
Mr Joe Karboski, Columbus OH
Mrs Rebecca Karl, Columbia Station OH
Mr Peter Karoki, Knoxville TN
Mr Krishna Chaitanya Rao Kathala, Boston MA
Mr Subba rao Katragadda, Lathrop CA
Ms Christiana Kayode, Brooklyn NY
Mr Christian Kemefa, Knoxville TN
Mrs Banurekha Kesavalu, Mason OH
Dr Sohrab Khan, Delaware OH
Dr Andor Kiss, Oxford OH
Dr Ellen Klinger, Columbus OH
Dr Katherine Knostman, Columbus OH
Mr Michael Koenig, Sidney OH
Mr Jayanth Kolli, East Palo Alto CA
Mr Rusty Kollmorgen, Columbus OH
Mr Abiola Komolafe, Louisville KY
Mr Benedict Kongyir, Youngstown OH
Mrs Sapna Korecherla, Delaware OH
Ms Mary Koshar, Wilmington OH
Ms Melissa Kowalski, Put-in-Bay OH
Samantha Kremidas, Longmont CO
Mr Richard Krock, Westlake OH
Mr Sean Kufel, Marietta OH
Dr Rajesh Kumar, Kent OH
Mr Murugan Lakshmanan, Morrisville NC
Mr Vignesh Lalgudi, Westerville OH
Mr Stuart Lambert, Columbus OH
Mr Shane Lanham, Grove City OH
Dr Jennifer Larson, Columbus OH
Mr Olanrewaju Lawal, Bowling Green OH
Dr Zainab Lawal, Omaha NE
Dr Stella Leh-Togi Zobeashia, Abuja Nigeria
Dr Bogdan Leu, Blue Ash OH
Yahong Liang, Solon OH
Dr Mark Light, Ada OH
Mr Christopher Lightle, Saint Paris OH
Mr Joel Lopes, Redmond WA
Dr Cadance Lowell, Dayton OH
Mrs Susan Luken, Miamisburg OH
Mr David Madukwe, Clemson SC
Mr Peter Makinde, Athens OH
Mr Amit Mangal, Shrewsbury MA
Ms Ashbey Manning, Ashland KY
Mr Mart Andrew Maravillas, Akron OH
Mrs Jeanette Marshall, Alvada OH
Ms Divya Marupaka, Irvine CA

ROSTER OF ACADEMY JUDGES (CONT.)

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Ms Sarina Mathis, Columbus OH
Dr Lindsey Mattern, Wilmington OH
Dr Stephen McConoughey, Woodstock GA
Mr Micah McCreery, Columbus OH
Ms Emily McGirty, Denver CO
Cheyenne McGough, Batavia OH
Dr Rebecca McGrail, Lexington KY
Mr Brad McIntyre, Dayton OH
Mr Benjamin McPheron, Maineville OH
Ms Brea McQueen, Cincinnati OH
Dr Lauren McRae, Cincinnati OH
Ms Lauren Menke, Versailles OH
Ms Marina Merlo, Columbiana OH
Dr Milad Mesgar, Beachwood OH
Ms Molly Mihlbachler, Cincinnati OH
Dr Brenda Miller, Pickerington OH
Ms Cathy Miller, West Chester OH
Ms Halle Miller, North Royalton OH
Ms Heather Miller, Mt. Sterling OH
Ms Stephanie Miller, Athens OH
Mr Ebuka Mmaduekwe, Muncie IN
Mr Ugochukwu Mmaduekwe, Athens OH
Mr Damilola Mohammed, Washington DC
Mr Muhammad Moinuddin, Dallas TX
Mrs Llanicelis Mojica Velazquez, Canal Winchester OH
Mr Israel Momoh, Stillwater OK
Ms Elizabeth Monarch, Troy OH
Mr Shawn Moore, Beavercreek OH
Dr Kunal More, Columbus OH
Sharon Morton, Westerville OH
Dr Charles Mosler, Findlay OH
Dr Tasneem Motiwala, New Albany OH
Dr Vicki Motz, Deering NH
Mr Matt Mowrer, Saint Clairsville OH
Mrs Maggie Mueller, Cleveland Heights OH
Mr Erik Mullins, Jackson OH
Dr Ashwathanarayana Muniyappa, Kent OH
Ms Ann Murdock, Sunbury OH
Mr Brenton Murphy, Norwell MA
Dr Stephanie Muscat, Columbus OH
Ms Kumudha Narayana Musini, Columbus OH
Mr Narendra Nadimpalli, Bellevue WA
Mr Nithish Nadukuda, Lewisville TX
Dr Himgauri Naik, Orlando FL
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Mr Jaime Navarrete, Tiffin OH
Dr Colleen Neal, Montgomery OH
Ms Priyanka Neelakrishnan, San Jose CA
Mr Musa Ngbede, Auburn AL
Mr Suman Niroula, Youngstown OH
Ms Chisom Nnajifor, Boston MA
Dr Morrison Nolan, Granville OH
Ms Barisi Nuka, Wake Forest NC
Ms Tambari Nuka, Wake Forest NC
Mrs Nwamaka Agatha Nweke, Jos Plateau
Mr Edwar Nyamekye, Athens OH
Mr Abiola Obafemi, Potomac MD
Dr Colette Obazee, Fayetteville GA
Mr Isaac Obembe, Manhattan KS
Mr Chukwudi Paul Obite, Tempe AZ
Ms Gift Obunukwu, Nashville TN
Mr Oluwaseye Odanye, Omaha NE
Mr Ikenna Odezuligbo, Omaha NE
Mr Emeka Odoh, Atlanta GA
Adeyemi Odudimu, Bethlehem PA
Ms Tolu Odukoya, Charlottesville VA
Ms Bukunmi Ofili, Johnson City TN
Mr Gibson Ofremu, Washington DC
Mr Isaac Ogbogo, Huntsville TX
Mrs Abidemi Ogundipe, Washington DC
Mr Sodiq Ogunmola, Beaumont TX
Mr Oluwatofunmi Oguntibeju, Seattle WA
Ms Olayemi Ojeokun, Manhattan KS
Mr Akinloye Emmanuel Ojewole, Midland MI
Mr Andrew Okafor, Baton Rouge LA
Mr Simon Okafor, Waco TX
Ms Deborah Okedoyin, Greensboro NC
Mr Allison Okolie, Sugarland TX
Mr Ugochukwu Okonkwo, Collinsville IL
Ms Eniola Ola, Fayetteville AR
Ms Motunrayo Oladele, Lexington KY
Mrs Temitayo Ologun, Charlotte NC
Mrs Titilayo Olotu, Kent OH
Mrs Stephanie Omakwu, Columbia SC
Mr Patrick O'Malley, Loveland OH
Mr Mayowa Omisanya, Philomath OR
Ms Angela Omogbeme, Carrollton GA
Ms Gift Omoruyi, Chazy NY
Mr Peter Oni, Worcester MA
Mr Enyinnaya Onuma, Auburn AL
Mrs Adeyinka Orelaja, Phoenix AZ
Ms Janet Osawere, Fate TX
Mr Bright Osuagwu, Wichita falls TX
Ms Oluwatoyin Osulale, Durham NH
Dr. Barbara Oswald, Hamilton OH
Prof Christine Ouma, Blue Ash OH
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Mr Babatunde Owolabi, Tuscaloosa AL
Ms Ayomide Oyefara, Baton Rouge LA
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Mr Saigurudatta Pamulaparthivenkata, Bryan TX
Dr Dhruva Panthi, New Philadelphia OH
Mr Vishnu Parandhaman, Stevenson Ranch CA
Mr Parth Patel, Philadelphia PA
Mr Subrat Pati, Mason OH
Dr Ryan Paul, Willoughby OH
Mr Frederick Pisani, Waynesburg OH
Mr Prabin Pokharel, Youngstown OH
Mr Kiran Polimetla, Liberty Hill TX
Mr Jaseem Pookandy, Aurora IL
Mr Nikhil Vardhan Rao Potlapally, Hayward CA
Dr Trevor Presgrave, Blue Ash OH
Dr Sanju Purohit, Diamond bar CA
Mr Paul Quarshie, Phoenix AR
Mrs Vicki Quinter, Fort Loramie OH
Ms Harshitha Raghavan Devarajan, New York NY
Ms Rahmawati Rahmawati, Austin TX
Mrs Basirat Raji-Adefila, Albuquerque NM
Ms Jumoke Raji-Ayoola, Atlanta GA
Mrs Addyson Ralston, Marysville OH
Dr Naina Rangavajla, Dublin OH
Mr Piyush Ranjan, Edison NJ
John Ray, West Chester OH
Mrs Ruth E. Ray, Warrensville OH
Mr Scott Reed, Skokie IL
Mr Alexander Reifsnyder, Columbus OH
Mr Alex Ridenour, Columbus OH
Dr Brian Ritchie, Columbus OH
Dr Taylor Roberge, Batavia OH
Ms Abigail Roeckmann, Cranberry Twp PA
Ms Cindy Rossman, North Royalton OH
Mrs Hope Roush, Gallipolis OH
Mr Rajarshi Roy, Buffalo Grove IL
Dr Megan Rúa, Dayton OH
Dr Bill Russell, Columbus OH
Ms Annie Ryan, Columbus OH
Ms Autumn Saddler, North Olmsted OH
Mr Prasanta Sahoo, Dublin OH
Mr Philip Salopek, Richmond Hts OH

ROSTER OF ACADEMY JUDGES (CONT.)

Ms Shruti Salunkhe, Normal IL
Mr Sagar Varma Samanthapudi,
Indianapolis IN
Mr Durga Prasada Rao Sanagana,
Mountain House CA
Ms Courtney Sanderson, Columbus OH
Lateefat Sanni, Bozeman MT
Mr Andrew Sauer, Loveland OH
Dr Ted Scharf, Cincinnati OH
Ms Hannah Schartel, Boulder CO
Prof Ryan Schmidt, Cincinnati OH
Dr Zachary Schneiderman, Dublin OH
Lara Schober, Columbus OH
Ms Sophia Schroeder, Columbus OH
Mr James Sebastian, Tipp City OH
Mr Greg Seevers, West Milton OH
Ms Sarah Sejoro, Statesboro GA
Mr Prassanna Selvaraj, Pittsburgh PA
Dr Michael Serra, Youngstown OH
Ms Katie Seward, New Philadelphia OH
Ms Shawnice Shankle, London OH
Ms Mabel Shehadi, Temple TX
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Mr Thomas Shields, Parkersburg WV
Mr Brendan Shirkey, Port Clinton OH
Ms Adenike Shittu, Cincinnati OH
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Mr James Short, Bryan OH
Mr Daniel Smith, Circleville OH
Dr Michael Smith, Hunting Valley OH
Dr Jenise Snyder, Pepper Pike OH
Dr Michael Soliday, Galloway OH

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Ms Olivia Spallinger, Columbus Grove OH
Dr Susan Speight, Wilberforce OH
Ms Robyn Sprock, Huber Heights OH
Mr Joe Stanek, Columbus OH
Mrs Monica Staniszewski, Cincinnati OH
Mr Ryan Steere, Athens OH
Ms Mary Stone, Columbus OH
Dr Treasure Suheck, Maumee OH
Dr Julie Suhr, The Plains OH
Mr Hemanth Swamy, West Haven CO
Mr Tayo Taiwo, College Park MD
Mr Adeniyi Talabi, Worcester MA
Dr Tao Tan, Columbus OH
Prof Kristen Tenney, Blue Ash OH
Mr Darshit Thakkar, Medford MA
Ms Rachel Thurston, Columbus OH
Mr Ashutosh Tripathi, Newark CA
Mrs Amy Tucker, Columbus OH
Mr Chaitanya Kanth Tummalachervu,
Parker CO
Mr Samuel Uche, Worcester MA
Mr Chinemerem Ugo, Stillwater OK
Dr Lynn Ulatowski, Mayfield Village OH
Mrs Egonda Umeobi, Columbus OH
Ms Benita Urhobo, Toledo OH
Mr Osasenaga Usoh, Mesquite TX
Mr Ifeanyi Uwaoma, Dunlap IL
Dr Ugonna Henry Uzoka, Viçosa Minas Gerais
Prof Kelly Vearil, Williamsburg OH
Mr Philip Vincent, Collinsville IL
Mr Noah Vogler, Dayton OH

Mrs Rebecca Vortkamp, Cincinnati OH
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Mr Matt Wallschlaeger, Johnstown OH
Mr Hui Wang, Mason OH
Dr Jinju Wang, Proctorville OH
Mrs Kalaine Weatherly, Morrow OH
Dr Mara Weber, Bremen OH
Mr Josh Welch, Cincinnati OH
Mr Jacob Welter, Columbus OH
Mr Travis West, McArthur OH
Dr Emily Westbrook, Batavia OH
April White, Columbus OH
Ms Madisson White, Columbus OH
Mrs Christy Wilhelm, Urbana OH
Mrs Luann Wilkinson, Marion OH
Hailey Wilson, Athens OH
Mrs Taiya Woodall, West Milton OH
Shireen Woodiga, Columbus OH
Dr Wenjing Xu, Columbus OH
Mr Naga Satya Praveen Kumar Yadati,
San Jose CA
Mr Umesh Yadav, Youngstown OH
Mr Suleiman Yahaya, Lakewood OH
Mr Brian Yates, Columbus OH
Dr Ruth Yerardi, Chillicothe OH
Dr Kelley Young, Jamestown OH
Mr Sodiq Yusuf, Moscow ID
Mrs Quadrat Yusuph, Oxford MS
Dr Ellen Zalucha, Hilliard OH
Dr Peggy Zoccola, Athens OH



*Thank You
Judges!*



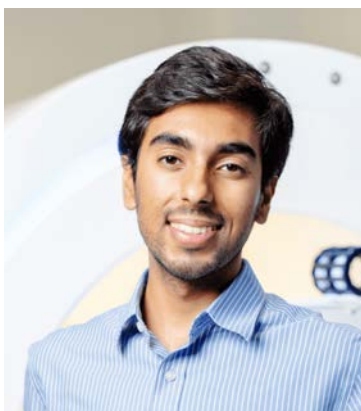
STATE SCIENCE DAY REFLECTIONS

Mr. Peeyush Shrivastava

Peeyush Shrivastava received his BS in Biomedical Sciences from The Ohio State University. He is a State Science Day Alumnus and went on to become an Intel Science Talent Semi-Finalist, Theil Fellow, and General Electric Star Award Winner. Mr. Shrivastava is the Founder and CEO of Genetesis (Mason, OH), a medical technology company that develops non-invasive biomagnetic solutions to improve patients' health, outcomes, and quality of life.

TO HAVE AN OPPORTUNITY TO leave the classroom and put the Scientific Method to work, and to deal with the ups and downs (or perhaps more appropriately trial and error) was simultaneously humbling and empowering. Having a chance to experience the sheer magnitude of brilliant people, judges, and students alike, interacting on science fair projects out of joy and genuine interest as opposed to compulsion was a catalyst for me in choosing a STEM career.

The technical skill that comes with independent learning and understanding challenging problems



by slowly reading and digesting the state of the art in any given field cannot be understated in its value. It taught me as a young man to value learning on my own and using whatever resources I could reasonably access to further my knowledge and skills. But I'd argue the most important skillset that I developed as a function of SSD was the art of communicating difficult concepts with simplicity. This is a muscle that takes time to exercise, and it has served me greatly on my entrepreneurial journey.

I started Genetesis in 2013 (as I was entering OSU as an undergraduate) with my co-founders and high school classmates. Genetesis is a medical imaging company that has developed CardioFlux™, a first-of-its kind biomagnetic imaging platform to identify functionally significant heart disease in its earliest stages, in a completely non-invasive 90-second test. The company has raised over \$40 million in venture capital financing to date and employs over 30 people, most of which are based in Ohio. CardioFlux™ is FDA 510(k) cleared, designated by FDA as a Breakthrough Device, and has been studied in nearly 1,000 patients spanning 5 clinical trials at leading hospitals throughout the U.S.

Ms. Cassidy Smith

Cassidy Smith is a 2024 graduate of The Ohio State University with a BS in Chemical & Biomolecular Engineering. Ms. Smith is a 7-year Awardee of State Science Day while attending Bloom Carroll MS and High School. Cassidy has completed multiple engineering internships and was President of the OSU Chem-E-Car Competition®.

FAST FORWARD TO GRADUATION AT OHIO State, and the skills and passion I found by doing State Science Day still exist. I was able to find a club at Ohio State that allowed me to continue doing science projects, Chem-E-Car. This club built a car from a chemical reaction and took it to competitions. State Science Day helped prepare me to be successful by giving me skills in applying the scientific method, problem solving, and presentation. People in my club as well as the classroom at Ohio State have always asked me

where my skills and knowledge come from, and my answer always includes State Science Day!

I encourage all students to try participating in State Science Day. Lastly, I have to immensely thank Joe Carter for giving me such a wonderful opportunity with the Science Fair program at Bloom Carroll. I hope this program continues for years to come!



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Volume 120 No. 2. Peer-reviewed articles (2020)



ROSTER OF STUDENT EXHIBITORS

Abdelraouf Abdallah

Grade: 7 Team project
Toledo Islamic Academy, Lucas County
Talk to me: Where are we dropping?

Aasiyah Abdullah

Grade: 11 Individual project
Horizon Science Academy Columbus,
Franklin County
Smart Gripper for Material Handling

Zaynab Abdullah

Grade: 12 Individual project
Horizon Science Academy Columbus,
Franklin County
Troubled Waters: The Process of Alum in Flocculation and its Effect on Turbidity

Sarah Abner

Grade: 11 Individual project
Miami Valley Ctc, Montgomery County
How Changes in Physical Expectations Affects Intrinsic Motivation

WK Abouhassan

Grade: 10 Individual project
Upper Arlington High School,
Franklin County
Effect of Heavy Metals at Different Concentrations on the Growth of Bacteria

Laasya Acharya

Grade: 11 Individual project
William Mason High School,
Warren County
Multimodal Network with Dynamic Hyperparameter Selection within UAV for Early Crop Disease Detection

Carlea Adams

Grade: 11 Individual project
Columbian High School, Seneca County
The Effects of Caffeine on Reaction Time

Cenna Adams

Grade: 6 Individual project
St Vincent De Paul, Knox County
Plant Growth

Khloe Adams

Grade: 7 Individual project
Clay Middle School, Scioto County
Solar Power Salt Removal

Lily Adams

Grade: 7 Individual project
St Vincent De Paul, Knox County
Cooling water

Booker Adkins

Grade: 7 Team project
Global Impact STEM Academy,
Clark County
What is the Stretchiest Cheese?

Ray Adkins

Grade: 6 Individual project
Fairfield Christian Academy,
Fairfield County
Frog

Lois Agyeman-Dua

Grade: 10 Individual project
Horizon Science Academy Columbus,
Franklin County
Comparative Efficacy of Three Disinfectants in Bacterial Eradication

Cade Alexander

Grade: 5 Individual project
New Albany Intermediate School, Franklin County
Bacteria Bandit vs. Cleaning Crew

Lily Alexander

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
The Effect of Animal Manure on a Microbial Fuel Cell

Hibaaq Ali

Grade: 10 Individual project
Horizon Science Academy Columbus,
Franklin County
Study the Effect of Water Depth on Wave Velocity

Roqayyah Al-Saedi

Grade: 7 Individual project
Toledo Islamic Academy,
Lucas County
Does eye color affect peripheral vision?

Annia Ameer

Grade: 7 Individual project
Ridgewood School The, Clark County
The Silver Spoon

Aubrey Anderson

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
What is the Cooking Time and Tenderness Difference Between Grain-Fed and Grass-Fed Beef?

Brooklyn Anderson

Grade: 6 Individual project
East Richland Christian Schools, Belmont County
Dissolution Rate of Different Allergy Medications

Jaxen Anderson

Grade: 7 Individual project
Tippecanoe Middle School,
Miami County
Sated VS Starved

Ahmad Anjum

Grade: 9 Individual project
Ottawa Hills High School, Lucas County
Photovoltaics

Maria Anthony

Grade: 7 Individual project
Mother Teresa Catholic, Butler County
Does Temperature Affect the Timing of Butterfly Development?

Zain Anwar

Grade: 11 Individual project
The University School - College Prep,
Cuyahoga County
Interleukin-34 Deficiency Amplifies Severity of Experimental DSS-Induced Colitis

Fadhila Ashraf

Grade: 8 Individual project
Ridgewood School The, Clark County
Which Antacid Neutralizes the Fastest?

Dorothy Back

Grade: 7 Individual project
St Charles Borromeo,
Montgomery County
Vive La Resistance

Emma-Lee Back

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
How Soda Packaging Type Affects Sugar Content in Samples

Ruth Bambauer

Grade: 8 Individual project
Holy Rosary, Auglaize County
Does Seed+Graphite Affect the Biomass of Early Plant Growth

ROSTER OF STUDENT EXHIBITORS (CONT.)

Marlie Barhorst

Grade: 12 Individual project
Anna High School, Shelby County
A Meta-Data Analysis into the Correlation of Applicant Wealth and College Admission Percentages

Brooke Barnes

Grade: 6 Team project
Miami East Junior High School,
Miami County
Does the price of headphones affect the sound quality?

Benjamin Bartyzel

Grade: 9 Individual project
St Ignatius High School,
Cuyahoga County
Searching for Patient Zero

Tarun Batchu

Grade: 10 Individual project
Olentangy Liberty High School,
Delaware County
Multiple Myeloma Precision-Medicine through M-Net and BINN Integrating TGI and Biomarker Isolation

Halle Baum

Grade: 9 Individual project
East Richland Christian Schools, Belmont County
The Effect of Protective Toothpaste

Morgan Beever

Grade: 7 Individual project
St Vincent De Paul, Knox County
Spark Plug Gap

Alaina Bell

Grade: 11 Individual project
Bloom-Carroll High School, Fairfield County
How Does Peptide D4E1 Affect the Survival Rate of Soybean Cyst Nematodes?

Cora Bell

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
Growing Plants With Natural and Synthetic Hydrogels

Ana Sofia Benavides Orta

Grade: 7 Individual project
All Saints, Hamilton County
The Power of Plants

Reagan Bender

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
Can Teenagers Hear Better Out of Their Left or Right Ear?

Sophia Bender

Grade: 6 Individual project
St Paul, Columbiana County
The Last Straw: How Disposable Straws Decompose

Sarah Benne

Grade: 7 Individual project
All Saints, Hamilton County
How does pH affect the spherification of popping boba?

Stephen Berent

Grade: 10 Individual project
Archbishop Carroll High School,
Montgomery County
Age Hardenability of Additively Manufactured Aluminum Alloys

Emily Beyke

Grade: 12 Individual project
St Henry High School,
Mercer County
Effects of Equine Involvement on People Diagnosed with Autism Spectrum Disorder

Anika Bhalla

Grade: 7 Team project
Miller-South Visual Performing Arts,
Summit County
Remaking Chips Healthy: Why We Need Healthier Food

Natalie Bigelow

Grade: 6 Individual project
St Charles Borromeo,
Montgomery County
Engineering Excitement: Changing STEM Perspectives

Hassan Bilal

Grade: 6 Individual project
Ridgewood School The, Clark County
The pH of Plastic Pollution

Aiden Bills

Grade: 8 Individual project
St Columban, Clermont County
Roofing Choices for a Cooler City

Carly Birchfield

Grade: 6 Team project
Graham Middle School,
Champaign County
STOP... Don't Eat That-5 Second Rule

Rajanya Bishi

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Proteolytic Enzymes VS Protein Digestion

Caleb Black

Grade: 6 Individual project
Chesapeake Middle School,
Lawrence County
Which Fertilizer Will Make Grass Grow Faster?

Ellie Blazier

Grade: 7 Individual project
Athens Middle School,
Athens County
Artemias Response To Different Foods

Amelia Bleiler

Grade: 8 Individual project
St Vincent De Paul, Knox County
Electrolytes

Joseph Blumensaadt

Grade: 12 Individual project
Put-In-Bay High School,
Ottawa County
Unblocking the Truth

Winnie Bodin

Grade: 10 Individual project
Benjamin Logan High School,
Logan County
Biological and Chemical Assessment on the Mad River Over Six Years

Elizabeth Bolen

Grade: 5 Individual project
East Richland Christian Schools, Belmont County
Comparing Popcorn Brands

Amalia Bollin

Grade: 11 Individual project
Sylvania Northview High School, Lucas County
Molecular Recognition of the Anticancer Drug Pirtobrutinib in Bruton's Tyrosine

ROSTER OF STUDENT EXHIBITORS (CONT.)

Annabelle Boone

Grade: 9 Individual project
Archbishop Alter,
Montgomery County
*The Effect of Wind Turbine Blade Pitch
on Energy Output*

Kirsten Boreman

Grade: 12 Individual project
Northwestern High School,
Wayne County
*Cell Phone Radiation and the Effect it
has on Cell Development*

Dylan Brandt

Grade: 7 Individual project
Bishop Leibold E And W Campus, Mont-
gomery County
Magnificent Marbles

Megan Brandt

Grade: 10 Individual project
Archbishop Alter,
Montgomery County
*Dechlorination by Different Purification
Methods and the Effect on Water's pH*

Telisah Bray-Harris

Grade: 11 Team project
Miami Valley Ctc, Montgomery County
NASA HUNCH 3D Printed Medical Instruments

Tanner Brewsaugh

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
*How Does Colored Light Effect Plant
Growth*

Eva Bridges

Grade: 7 Individual project
Canton Country Day School,
Stark County
What Scents Stimulate a Cat's Heart Rate?

Elliott Brooks

Grade: 7 Individual project
Our Lady Of Perpetual Help,
Franklin County
Does wing shape affect lift?

Josephine Brooks

Grade: 7 Individual project
Incarnate Word Academy,
Cuyahoga County
*Flooring Material Types: Too Slippery
for Dancing?*

Calvin Brown

Grade: 7 Individual project
Holy Rosary, Auglaize County
*How Does the Type of Wood Affect the
Pressure Used to Split it.*

Journey Brown

Grade: 6 Team project
Zane Trace Middle School,
Ross County
Water Bottle War!

Kylee Bruce

Grade: 12 Individual project
Fairland High School, Lawrence County
Anti-Germ

Brielle Brzytwa

Grade: 12 Individual project
Mentor High School, Lake County
*Analyzing Gender Inequity:
Opportunities for Parental Leave*

Clarence Bucaro

Grade: 7 Team project
Miller-South Visual Performing Arts,
Summit County
*Remaking Chips Healthy: Why We Need
Healthier Food*

Sebastian Burchett

Grade: 7 Individual project
Bishop Leibold E And W Campus, Mont-
gomery County
Too Fast to Fall

Paisley Burkitt

Grade: 6 Team project
Zane Trace Middle School,
Ross County
Hand Sanitizer or Soap

Jonah Burns

Grade: 7 Individual project
Chillicothe Middle School,
Ross County
The Color Assist Hub

Mallory Burrus

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
*The Presence of Microbial Growth in
School Air Conditioning Units*

Noah Bussard

Grade: 6 Individual project
Cincinnati Classical Academy,
Hamilton County
*What Popular Beverage Stains Teeth the
Most?*

Keith Butler

Grade: 10 Individual project
Archbishop Alter, Montgomery County
*Various Concentrations of Bromine Fire
Retardants*

Yav Byake

Grade: 12 Team project
Firestone Community Learning Center,
Summit County
Rubber for Mars

Teagan Carlin

Grade: 7 Individual project
St Francis Xavier, Medina County
Producing Power Along With Agriculture

Mac Carnes

Grade: 11 Team project
Bethel High School, Miami County
*Designing an Apparatus to Encourage
Better Posture in Schools*

Isabella Carroll

Grade: 7 Individual project
St Jude, Lorain County
The Calming Effects of ASMR

Paisley Carroll

Grade: 5 Individual project
L. T. Ball Intermediate School,
Miami County
An Investigation of Density & Buoyancy

Andrew Carter

Grade: 12 Individual project
Bloom-Carroll High School, Fairfield
County
*Effects of Fertilizer and Temperature
on Dill's Atlantic Giant Pumpkin Seeds'
Radicle Growth Rate*

Abigail Carver

Grade: 6 Team project
Zane Trace Middle School,
Ross County
Yoga & Flexibility Challenge

ROSTER OF STUDENT EXHIBITORS (CONT.)

Leah Casas

Grade: 11 Individual project
Archbishop Carroll High School, Montgomery County
Can Humans Differentiate AI-Generated from Human-Written Text?

Hollis Chaney

Grade: 6 Individual project
Bishop John King Mussio Central Junior High School, Jefferson County
What Do Conflicting Mental Tasks Reveal About Thinking?

Manraj Chauhan

Grade: 7 Individual project
Columbia Middle School, Lorain County
EDP - Agriculture Farming Working Model

Andy Chen

Grade: 10 Individual project
Upper Arlington High School, Franklin County
Time delay and its effect on misinformation among teenagers

Annie Chen

Grade: 9 Individual project
Fairland High School, Lawrence County
Lung Capacity: Athletes versus Non-athletes

Larissa Chen

Grade: 6 Individual project
The Plains Intermediate School, Athens County
Is Ohio a good place for solar cells?

Ryan Chen

Grade: 11 Individual project
Mentor High School, Lake County
The Effect of Humidity, Temperature, and pH on the Efficiency of Plastic Bottle Decomposition by the Pestalotiopsis microspora and its Enzyme Activity

Vedant Chhabra

Grade: 9 Individual project
William Mason High School, Warren County
Improving Solar Cell Efficiency using AI/ML Models and Physics-Based Simulations

Annie Chiang

Grade: 7 Individual project
Hathaway Brown, Cuyahoga County
The Golden Pipe

Likhit Chilakala

Grade: 8 Individual project
Mason Middle School, Warren County
How does Water Salinity Affect the Plants Growth

Maya Choksey

Grade: 9 Team project
Ottawa Hills High School, Lucas County
The Effect of Different Genres of Music on Short-Term Memory

Arnab Chowdhury

Grade: 6 Individual project
Hyatts Middle School, Delaware County
Neutralizing Stomach Acid with Natural Mixtures

Josiah Close

Grade: 6 Individual project
East Richland Christian Schools, Belmont County
Water Bottle Material Efficiency

Charley Clyne

Grade: 12 Team project
Zane Trace High School, Ross County
Piezoelectric Energy Harvester

Nora Cobb

Grade: 7 Individual project
Buckeye Valley Local Middle School, Delaware County
Does Volume Affect Volume?

Cooper Coffee

Grade: 5 Individual project
Unioto Elementary, Ross County
How Does Momentum Affect How Far You Jump?

Samantha Cohen

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
What is the Effect of Different Substances on Daphnia Heart Rate?

Abigail Coleman

Grade: 8 Individual project
St Sebastian, Summit County
Lettuce Grow!

Georgia Collins

Grade: 10 Individual project
Archbishop Carroll High School, Montgomery County
The Effects of Jazz Music on Recovering Systolic Blood Pressure

Micaela Conard

Grade: 6 Individual project
St Charles Borromeo, Montgomery County
Flight of a Soccer Ball

Leah Congrove

Grade: 6 Team project
Zane Trace Middle School, Ross County
Playground Bacteria

Khloe Cool

Grade: 12 Individual project
Miami Valley Ctc, Montgomery County
Rinse and Run-The effects of rinsing different carbohydrates on the Yo-Yo Beep Test

Killarney Cooper

Grade: 6 Individual project
Holy Angels, Shelby County
Does Age Affect Your Taste Buds?

Giancarlo Corallo

Grade: 7 Individual project
St Paul, Columbiana County
Creating Glowing Bacteria

Julia Corcoran

Grade: 8 Individual project
Bishop Flaget School, Ross County
Which Portable Water Purification System Works Best?

Graeme Cornwall

Grade: 6 Individual project
Cincinnati Classical Academy, Hamilton County
Watering Plants: My Least Favorite Chore

Bailey Cotterman

Grade: 8 Individual project
Holy Angels, Shelby County
Which Type of Stain Remover Removes Stains the Best?

Brielle Council

Grade: 9 Team project
Columbian High School, Seneca County
Evaluating Hair Dye

ROSTER OF STUDENT EXHIBITORS (CONT.)

Jonathan Coway

Grade: 8 Individual project
Decolores Montessori School,
Darke County
Wave Particle Duality

Savannah Crawford

Grade: 11 Team project
Global Impact STEM Academy,
Clark County
*How Does Temperature Affect the
Frequency of an Acoustic Guitar vs an
Electric Guitar?*

Kenzi Cunningham

Grade: 7 Individual project
St Mary, Washington County
*Different Ages Distinguishing
Between Candy and Medicine*

Matthew Cunningham

Grade: 7 Individual project
St Mary, Washington County
How light color affects soybean growth

Grace Czaplicki

Grade: 7 Individual project
Sacred Heart Of Jesus, Medina County
*Examination of the Effects of Stomach
Acid on Probiotics*

Juliette Dailey

Grade: 8 Individual project
Alexander Jr. / Sr. High School,
Athens County
*Can Home Remedies Kill Bacteria in a
Drinking Fountain?*

Evan Dan

Grade: 10 Individual project
Solon High School, Cuyahoga County
*Insights of Suicide Factors from Themat-
ic Analysis and Machine Learning-Based
Detection of Suicidal Ideation on Reddit*

Kiera Dando

Grade: 6 Individual project
St Raphael, Cuyahoga County
*Fabulous Flours - How do different types
of flours affect density?*

Xavier Daniel-Dorelien

Grade: 6 Individual project
New Albany Intermediate School, Frank-
lin County
Video Games and Pre-teen Behavior

Elise Daniels

Grade: 6 Individual project
Trinity Lutheran, Lucas County
*Itchy, Scratchy, Arf, Arf! Blood-based
Allergy Testing in Dogs*

Riddhimaan Das

Grade: 8 Individual project
Mason Middle School, Warren County
*Harnessing the Breeze: Maximizing
Wind Turbine Efficiency*

Varun Das

Grade: 10 Individual project
Independence Elementary School, But-
ler County
Autopilot Insulin

Gabe Davala

Grade: 7 Individual project
St Raphael, Cuyahoga County
Evaporating Chlorine

Cameron Davis

Grade: 12 Individual project
Tippecanoe High School, Miami County
Defeating Superficial Punctate Keratitis

Jack D'Cruz

Grade: 10 Individual project
The University School - College Prep,
Cuyahoga County
*Live-Cell Imaging to Target Drug Resis-
tance in Multiple Myeloma*

Lucas D'Cruz

Grade: 8 Individual project
Shaker Hts Middle School,
Cuyahoga County
Best Simple Filtration Method for Water

Eliza Dean

Grade: 7 Individual project
Bellbrook Middle School, Greene County
Which Store is the Most Clean?

Siena Decker

Grade: 9 Individual project
Dayton Regional STEM School, Mont-
gomery County
What Cleaner is Most Effective?

Rory Dehoff

Grade: 6 Individual project
Bishop Flaget School, Ross County
*How Can One Reduce Skin Wrinkling in
Water?*

Alexander Devia

Grade: 5 Individual project
National Inventors Hall of Fame School
Center for STEM, Summit County
Laundry Time

Matthew Devine

Grade: 12 Individual project
The University School - College Prep,
Cuyahoga County
*Antifouling Zebra Mussel Adhesives with
Ultraviolet Radiation*

Graham DeVylder

Grade: 7 Individual project
St Columban, Clermont County
*Does the Surface Material Impact the
Stored Heat of a Driveway*

Clara DiCristoforo

Grade: 6 Individual project
Cincinnati Classical Academy,
Hamilton County
Electrolyte Challenge

Alizabeth Dominguez

Grade: 7 Individual project
St Benedict Catholic School,
Lucas County
Does Color Affect Heat?

Lahari Doppalapudi

Grade: 11 Individual project
Dayton Regional STEM School, Mont-
gomery County
Novel Antibiotics in the Kitchen

Brendon Doran

Grade: 7 Individual project
St Agatha, Franklin County
Feeling Lucky

Alexis Drake

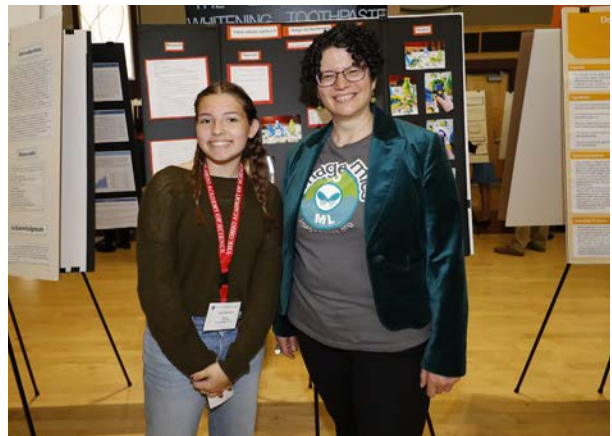
Grade: 9 Individual project
Archbishop Alter, Montgomery County
*The Impact of Cell Phone Radiation on
Staphylococcus epidermidis*

Grayson Drewett

Grade: 5 Individual project
East Richland Christian Schools, Belmont
County
Which Bait Will Catch More Fish?

Aviel Drozhinskiy

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Which Cheese Creates The Longest Pull?



ROSTER OF STUDENT EXHIBITORS (CONT.)

Elizabeth Dunbar

Grade: 8 Individual project
Liberty Union Middle School,
Fairfield County
Different Dyes and Temperatures of dye

Mitchell Dunlap

Grade: 9 Individual project
Fairland High School, Lawrence County
Germes on the Run

Molly Dunlap

Grade: 10 Individual project
Fairland High School, Lawrence County
Sourcing Seeds

Macie Dunn

Grade: 7 Individual project
Mother Teresa Catholic, Butler County
*How much faster do plants in hydroponics
grow than plants in soil?*

Jessica Dusabe

Grade: 10 Individual project
Archbishop Alter, Montgomery County
*The Extraction of Strawberry DNA from
Three Stages of Ripeness*

Olivia Dyczek

Grade: 7 Team project
Holy Trinity, Lorain County
*Memory Mirage - How Does The Mandela
Effect Affect You?*

Elizabeth Earwood

Grade: 12 Team project
Miami Valley Ctc, Montgomery County
Do Fish Need More O2 Grow

Adalae Eblin

Grade: 6 Individual project
Chillicothe Intermediate School, Ross
County
*What Skin Cream Is Best To Repair Your
Skin Barrier?*

Esme Ehlinger

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Do plants affect the growth of plants?

Sami Elliott

Grade: 7 Individual project
Bishop Flaget School, Ross County
Which sunscreen works the best?

Safia Elsayed

Grade: 7 Individual project
Toledo Islamic Academy, Lucas County
Sunscreen and Ultraviolet rays

Maren England

Grade: 5 Individual project
Unioeto Elementary, Ross County
*Grow with the Flow:
Hydroponics vs Aquaponics*

Tyler English

Grade: 11 Team project
Miami Valley Ctc, Montgomery County
*NASA HUNCH 3D Printed
Medical Instruments*

Daniel Ennis

Grade: 7 Individual project
St Charles Borromeo,
Montgomery County
Propeller Pitch

Aubrey Ernst

Grade: 8 Team project
Tippecanoe Middle School,
Miami County
Pet Personality Project

JaeSean Esters

Grade: 11 Team project
Ellet Community Learning Center,
Summit County
Rubber for Mars

Mical Estifanos

Grade: 8 Individual project
St Paul School, Delaware County
*Vocal Communication:
The Telephone Game*

Kennedy Everett

Grade: 11 Individual project
Mentor High School, Lake County
*Examining how physical and verbal
contact affects the reactivity of horses.*

Isabella Everhart

Grade: 6 Team project
Tippecanoe Middle School,
Miami County
*The coding of an automatic doggy door
treat dispenser*

Juliana Faehnle

Grade: 7 Individual project
St Agatha, Franklin County
Zap That Zit

Kyla Fallis

Grade: 11 Individual project
Bath High School, Allen County
*Effectiveness of Microbial Fuel Cells
Using Household Compost*

Mahmud Farah

Grade: 7 Team project
Toledo Islamic Academy, Lucas County
Talk to me: Where are we dropping?

Jacob Farner

Grade: 12 Team project
Northwestern High School,
Wayne County
GrocerEase

Ayesha Faruki

Grade: 10 Individual project
Mentor High School, Lake County
*Mechanosensory input affecting non-
flight behaviors in Sarcophaga bullata*

Quinn Fast

Grade: 12 Individual project
Northwestern High School,
Wayne County
*The Effect of Pre-Writing Skills on
Hand-Writing Development*

Elizabeth Ferro

Grade: 9 Individual project
Beaumont School, Cuyahoga County
*Common Comorbidities of Cystic Fibrosis
and Their Frequency: A Meta-Analysis*

Eli Filippi

Grade: 7 Team project
Kilbourne Middle School,
Franklin County
*How does the temperature of a magnet
affect its strength?*

Rachel Finegan

Grade: 10 Individual project
Dayton Regional STEM School,
Montgomery County
Can Fruit Flies Beat the Heat?

ROSTER OF STUDENT EXHIBITORS (CONT.)

Luke Fioritto

Grade: 8 Individual project
The University School, Cuyahoga County
Is AI Better at Detecting Tooth Decay Than a Clinical Dentist?

Micah Fisher

Grade: 8 Individual project
Liberty Union Middle School,
Fairfield County
Bacterial Colonization on Cell Phones

Audrey Flaute

Grade: 11 Individual project
Anna High School, Shelby County
The Effect of White Noise on Short-Term Memory Recall

Kristin Fleck

Grade: 7 Individual project
Bishop Flaget School, Ross County
Can Conditioning Before Stretching Affect Flexibility?

Ernesto Flores

Grade: 7 Individual project
St Patrick, Miami County
Black Ice Mobile

James Fogarty

Grade: 5 Individual project
John F. Kennedy Catholic Lower School,
Trumbull County
Can a potato produce electricity

Livia Ford

Grade: 12 Individual project
Sylvania Northview High School,
Lucas County
Alpha, Beta Difunctionalization of Electron Poor Olefins

Rennick Foreman

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
How Does Voltage Affect the Growth of Bacteria?

Jonah Francis

Grade: 6 Individual project
Holy Angels, Shelby County
How Does Temperature Affect the Flow of Food Through a G-tube?

Elizabeth Frantz

Grade: 9 Individual project
Wooster High School,
Wayne County
Farm Field Runoff: Nitrate and Phosphate Occurrence in Maple Syrup

Stevie Frantz

Grade: 6 Individual project
Edgewood Middle School,
Wayne County
The Search for the Missing Plants

Kolin Frazee

Grade: 12 Individual project
Arcanum High School, Darke County
Marathons, Memories, and Myelin: A Meta-Analysis

Mylo Frazier

Grade: 7 Individual project
Ridgewood School The, Clark County
Booming Bakery

Mallory French

Grade: 6 Team project
Zane Trace Middle School, Ross County
Hand Sanitizer or Soap

Isaiah Fuhr

Grade: 9 Individual project
Rock Hill Sr High School, Lawrence County
Finding a Superior Alternative to the Weedkiller Roundup®

Jourden Fultz

Grade: 10 Individual project
Horizon Science Academy Columbus,
Franklin County
Stroop Effect: Does it have an affect on our response and comprehension time?

Dane Furey

Grade: 9 Team project
Ottawa Hills High School, Lucas County
The Science Behind Edison's Sleep Method

Scemore Gaines

Grade: 12 Team project
Firestone Community Learning Center,
Summit County
Optimization of Photo pigments Extractions Using Low Biomass Micro Algae Samples

Hadley Maye Galentine

Grade: 8 Individual project
Milton-Union Middle School,
Miami County
I Spy With My Little Eye: Age and Visual Search

Jaleea Gamble

Grade: 12 Individual project
Eastland Career Center, Franklin County
The Effect of Black Raspberry Nectar on Gut Microbes

Ariane Garrison

Grade: 12 Individual project
Arcanum High School, Darke County
An Apple a Race, Gets First Place

Michael Ge

Grade: 11 Individual project
Ursuline, Mahoning County
Effect of Sympathetic Activity on ECT Response Time

Maria Gessler

Grade: 7 Individual project
Bishop John King Mussio Central Junior High School, Jefferson County
How Much Does Deep Breathing Lower Blood Pressure?

Ishaan Ghosh

Grade: 7 Individual project
Lakota Plains Junior School,
Butler County
3 Minutes to Help Fight Food Insecurity

Addelyn Gilles

Grade: 5 Individual project
Northwestern Elementary School,
Wayne County
"Cat"astrophe: Paw Preference in Cats

Josiah Gilman

Grade: 12 Team project
Northwestern High School,
Wayne County
GrocerEase

Addison Gladman

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
How do different liquids affect the rise of yeast in sourdough?

ROSTER OF STUDENT EXHIBITORS (CONT.)

Owen Goettel

Grade: 6 Individual project
New Albany Intermediate School, Franklin County
The Influence of Plant Nutrition on Growth

Charles Gooch

Grade: 7 Individual project
East Richland Christian Schools, Belmont County
The Effects of Topical Antibiotics on Dissolvable Sutures

Michael Gorey

Grade: 5 Individual project
St Ambrose, Medina County
Bacteria Saver

Kate Gorney

Grade: 7 Team project
Holy Trinity, Lorain County
Memory Mirage - How Does The Mandela Effect Affect You?

Keshav Goyal

Grade: 10 Team project
Upper Arlington High School, Franklin County
Effect of Different Wrist Braces on Tennis Performance

Olivia Grabert

Grade: 9 Team project
Columbian High School, Seneca County
Evaluating Hair Dye

Vanessa Grafe

Grade: 6 Individual project
Bishop John King Mussio Central Junior High School, Jefferson County
Wait, You Need Math to Make Marshmallows?

Jackson Gray

Grade: 6 Team project
Miami East Junior High School, Miami County
How does color have effects on memory?

Phoebe Green

Grade: 11 Individual project
Global Impact STEM Academy, Clark County
How Does the Angle of Solar Panels Affect the Amount of Energy that They Produce?

Brody Greeno

Grade: 6 Individual project
Trinity Lutheran, Lucas County
Which Ball Bounces the Highest? Large or Small

Alena Griffin

Grade: 7 Individual project
East Canton Middle School, Stark County
Is Twin Telepathy Real?

Lilah Grimm

Grade: 7 Individual project
Trimble Junior High, Athens County
The Robotic Rabbit

Ruby Gross

Grade: 11 Individual project
Archbishop Carroll High School, Montgomery County
Ballistic Analysis of Common Construction Materials

Caden Groth

Grade: 7 Individual project
Ridgewood School The, Clark County
AI or not?

Adelyn Guidera

Grade: 6 Team project
Graham Middle School, Champaign County
Can Different Liquids Change A Plant's Height?

Heleena Gunnels

Grade: 7 Individual project
Bishop Flaget School, Ross County
Which Type of Tide Cleans Laundry Best?

Cora Gutierrez

Grade: 9 Individual project
Tri-Village High School, Darke County
Flood-Resistant Device for Trapping Trash Debris in an Agricultural Creek

Blessing Gyimah

Grade: 10 Individual project
Horizon Science Academy Columbus, Franklin County
Investigating Neural Activity during Working Memory Tasks: A 6-Week Neuroplasticity Study

Carson Haas

Grade: 11 Team project
Global Impact STEM Academy, Clark County
How Does Temperature Affect the Frequency of an Acoustic Guitar vs an Electric Guitar?

Jasmine Hajjar

Grade: 9 Individual project
Ottawa Hills High School, Lucas County
What is a Gut Feeling?

Bili Hamed

Grade: 10 Individual project
Dayton Regional STEM School, Montgomery County
Investigating Gene Mutations In Neuroblastoma

Mckenzie Hamm

Grade: 5 Individual project
New Albany Intermediate School, Franklin County
Color Me Crazy: Does color effect taste?

Xinrui Han

Grade: 12 Individual project
Athens High School, Athens County
Development and Application of Water Quality Detection Method Based on Smartphone Color Recognition

Zachary Han

Grade: 11 Individual project
Solon High School, Cuyahoga County
A computational pipeline to identify cell types from multiplexed DNA FISH data

Caitlin Hanna

Grade: 9 Individual project
Beaumont School, Cuyahoga County
What Effect Does the Type of Sport Have on the Amount of Calories Burned

Ellie Hanshaw

Grade: 12 Individual project
Northwestern High School, Wayne County
Effects Water Pollution has on Plants

Eleni Haralamos

Grade: 6 Individual project
Cincinnati Classical Academy, Hamilton County
Soil Erosion by Water With Deep-Rooting Plants

ROSTER OF STUDENT EXHIBITORS (CONT.)

Leanna Haring

Grade: 7 Individual project
Ashland Christian, Ashland County
Does The Amount Of Air In A Volleyball Affect Passing Accuracy?

Sophia Harsch

Grade: 10 Individual project
Archbishop Carroll High School,
Montgomery County
The Effect of Temperature on Adhesive Properties of Seed Mucilages

Natalie Hartzell

Grade: 9 Individual project
Archbishop Carroll High School, Mont-
gomery County
The Effect of Deicers on Phaseolus lunatus Growth

Sarah Hartzell

Grade: 11 Individual project
Archbishop Carroll High School, Mont-
gomery County
The Effect of Aspartame on Locomotor Function and Memory Retention

Matthew Harwedel

Grade: 11 Individual project
Miami Valley Ctc, Montgomery County
Does the amount of acidity in different waters affect onset blood lactate accumulation?

Weston Hatfield

Grade: 6 Individual project
Arcanum High School, Darke County
Best Fire Starting Method

Mirabel Hattier

Grade: 9 Individual project
Beaumont School, Cuyahoga County
The effect of a muslin retractable bag on different types of food

Mallory Havenar

Grade: 12 Individual project
Anna High School, Shelby County
Feel Better Now to Feel Worse Later?

Ally Heath

Grade: 12 Individual project
St Henry High School, Mercer County
The Effects of Vibration on Angiogenesis

Anna Helber

Grade: 7 Team project
Zane Trace Middle School, Ross County
Sun Safe Solutions

Grant Hemmert

Grade: 8 Individual project
Holy Angels, Shelby County
How does the PSI of a Soccer Ball Affect How Far it Travels

William Hendricks

Grade: 12 Individual project
Sylvania Northview High School, Lucas
County
Measurement of tandem perovskite and silicon solar cell performance under varying solar spectra

Maddie Hertrick

Grade: 7 Individual project
St Francis Xavier, Medina County
Are Infrared Thermometers as Accurate as Oral Thermometers?

Elise Hess

Grade: 10 Individual project
Global Impact STEM Academy,
Clark County
Precision Agriculture: Evaluating Soil Moisture with RGB, Multispectral, and Thermal UAV Sensors

Carson Hill

Grade: 7 Individual project
Jackson Middle School, Jackson County
Hand Dryers and Their Germs

Kiana Hill

Grade: 8 Individual project
Dayton Christian School,
Montgomery County
Corrosive Sodas

Abigail Hilty

Grade: 6 Individual project
Cincinnati Classical Academy,
Hamilton County
Does Color Impact Water Desalination Efficiency

Logan Hirsh

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Bettering Bath Time - Logan Hirsh

Max Hoffman

Grade: 12 Individual project
Upper Arlington High School,
Franklin County
Method to improve tetramer binding for flow cytometric detection of antigen-specific T cells.

Austin Holler

Grade: 6 Individual project
St Patrick, Miami County
Ultraviolet Bananas

Tressel Holton

Grade: 12 Individual project
Sylvania Northview High School,
Lucas County
Diagnostic Dilemmas: A PLS-DA Study of the Active Kinome in Patients with Schizophrenia

William Holton

Grade: 7 Team project
Kilbourne Middle School,
Franklin County
How does the temperature of a magnet affect its strength?

Corrina Holtzapple

Grade: 11 Individual project
Anna High School, Shelby County
Investigating Period Products' Effects

Emma Hough

Grade: 8 Individual project
Buckeye Valley Local Middle School,
Delaware County
Aquaponics vs. Traditional Farming

Norah House

Grade: 7 Individual project
Athens Middle School, Athens County
Acid Mine Drainage Remediation

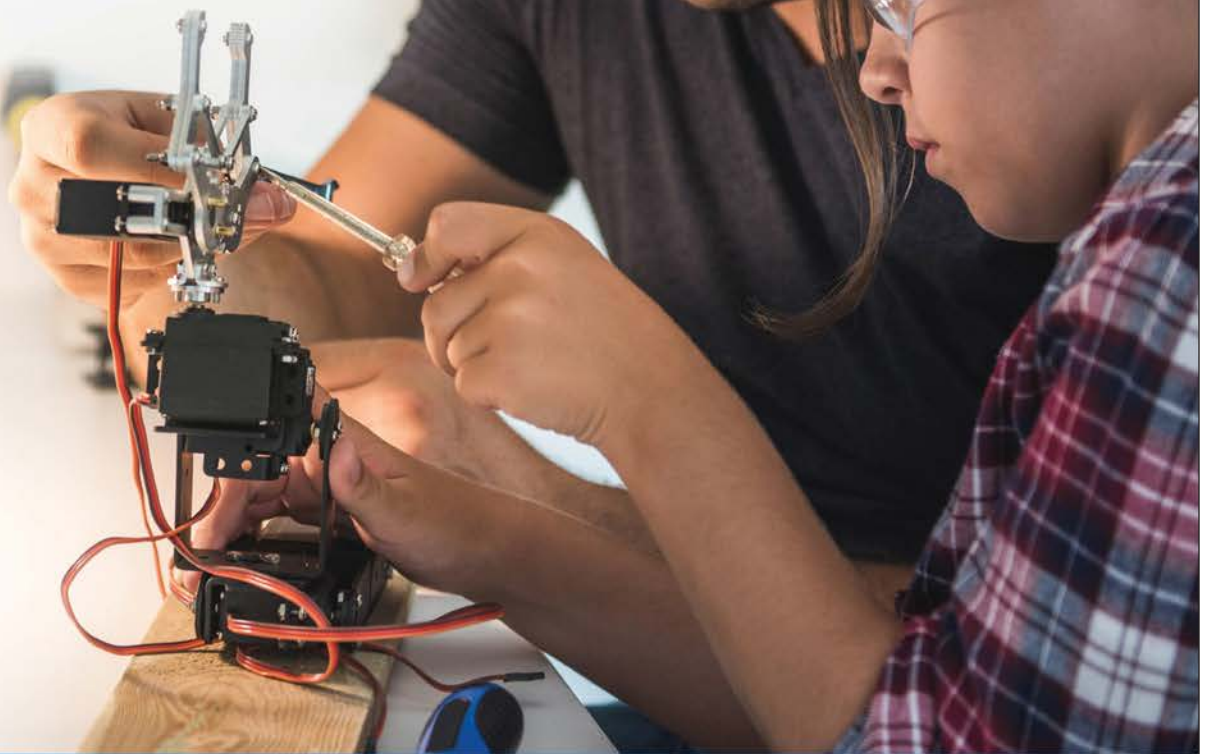
Bella Howard

Grade: 9 Team project
Ottawa Hills High School, Lucas County
Do Gel Capsules Dissolve Faster Than Tablets?

Kinley Hoylman

Grade: 6 Team project
Zane Trace Middle School, Ross County
Water Bottle War!

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ROSTER OF STUDENT EXHIBITORS (CONT.)

Kate Hubner

Grade: 8 Individual project
Put-In-Bay High School, Ottawa County
Paper Towel Strength Showdown

Mackenzie Hudson

Grade: 12 Individual project
Global Impact STEM Academy,
Clark County
*The Effectiveness of Coffee Packaging
Methods and Their Ability to
Retain Freshness*

Claire Huffman

Grade: 8 Individual project
Ashland Christian, Ashland County
*Do Cats React To Laser Pointer
Colors Other Than Red?*

Finn Huffman

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
*Does The Season The Honey Was Har-
vested in affect the Glucose
Level/percent?*

Nehemiah Hughes

Grade: 11 Team project
Akron STEM High School,
Summit County
*The Effects of Cross-linkers on
Vitrimer Networks*

Isaac Huh

Grade: 7 Team project
Kilbourne Middle School,
Franklin County
*How does the temperature of a magnet
affect its strength?*

Isaiah Hunter

Grade: 9 Individual project
Dayton Regional STEM School, Mont-
gomery County
Creating 4-Dimensional Graph Paper

Indi Hutchison

Grade: 6 Individual project
Chesapeake Middle School,
Lawrence County
The Big Bubble Experiment

Vaishnavi Illindala

Grade: 10 Individual project
Olentangy Berlin High School,
Delaware County
*Pathogenesis and Risk Factors
Associated with Type 2 Diabetes
Mellitus Using Population Segmentation*

Erynn Imhoff

Grade: 5 Individual project
Northwestern Elementary School,
Wayne County
Say What?

Anna Irwin

Grade: 8 Individual project
Ashland Christian, Ashland County
*Do High School Aged Swimmers Or Soccer
Players Have A Greater Vo2 Max?*

Olga Isailovic

Grade: 12 Individual project
Ottawa Hills High School, Lucas County
*Evaluation of Prunus armeniaca Kernel
Oil, a Renewably Sourced Oil as a Lip-
stick Structuring Agent*

Audrey Jackson

Grade: 8 Team project
Tippecanoe Middle School,
Miami County
Pet Personality Project

Lincoln Jacobs

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
*Does Spray Paint Affect the Altitude of a
Model Rocket?*

Piper Jacobs

Grade: 5 Team project
Graham Elementary School,
Champaign County
How High will it Rise?

Arjun Jain

Grade: 10 Team project
The Miami Valley School,
Montgomery County
*Effect of Different Wrist Braces on Tennis
Performance*

Selma Janes

Grade: 6 Individual project
Chillicothe Intermediate School, Ross
County
The Effect of Covid on Students Behavior.

Ashton Jean

Grade: 7 Team project
Zane Trace Middle School, Ross County
Moisture Magic

Paxton Jecker

Grade: 9 Individual project
Archbishop Alter,
Montgomery County
*The Effect of pH Levels on the
Decomposition of a Coated Tablet*

Jillian Jennings

Grade: 9 Individual project
Global Impact STEM Academy,
Clark County
*How Effective are Tartar Control Dog
Treats?*

Josie Jennings

Grade: 11 Individual project
Global Impact STEM Academy,
Clark County
*The Study of Ringworm Remedy Effective-
ness in Treating Ringworm on Beef Cattle*

Sara Jimmar

Grade: 7 Individual project
Mother Teresa Catholic,
Butler County
*Which type of sunscreen best
protects people of all skin tones from
ultraviolet light?*

Evelyn Jin

Grade: 8 Individual project
Solon Middle School,
Cuyahoga County
Natural Antibiotics

Alyssa Johnson

Grade: 8 Individual project
Ashland Christian, Ashland County
*Which type of gluten-free flour helps
cupcakes rise higher?*

Chloe Johnson

Grade: 7 Team project
Zane Trace Middle School, Ross County
Moisture Magic

Jesse Johnson

Grade: 12 Individual project
Lincoln High School, Franklin County
*Sugar's Effect on the Speed of Textile
Biodegradation via
Gromphadorhina portentosa*

ROSTER OF STUDENT EXHIBITORS (CONT.)

Kalan Johnson

Grade: 5 Individual project
Portsmouth Elementary, Scioto County
Electrolyte Insight: The Best Beverage for Electrolyte Replacement

Kate Johnson

Grade: 12 Individual project
Bloom-Carroll High School,
Fairfield County
How Does Caffeine Affect Mice's Memories?

Noah Johnson

Grade: 9 Individual project
Archbishop Alter, Montgomery County
The Effect of Caffeine On the Heart Rate of Daphnia

Timothy Johnson

Grade: 6 Individual project
Arcanum High School, Darke County
Which Form of Nitrogen Will Win?

Aubrey Johnston

Grade: 6 Individual project
Zane Trace Middle School, Ross County
Safe Milk

Jenna Johnston

Grade: 6 Team project
Graham Middle School,
Champaign County
STOP... Don't Eat That-5 Second Rule

Lydia Johnston

Grade: 8 Individual project
Holy Angels, Shelby County
Does a Person's Taste Change Based on the Brand of a Product?

Angela Jones

Grade: 5 Individual project
New Albany Intermediate School,
Franklin County
Comparing Store-Bought Water and Filtered Tap Water

Kara Jones

Grade: 11 Individual project
Central Christian, Wayne County
Carotenoid biofortification of yolks to produce more nutritious eggs

Claire Jordan

Grade: 10 Individual project
Archbishop Carroll High School, Montgomery County
The Effect of Water Contamination on Arthrospira platensis Growth

Nicholas Joseph

Grade: 10 Individual project
Archbishop Carroll High School, Montgomery County
The Effect of Stabilizers on Model Rocket Stability and Performance

Darren Joyce

Grade: 5 Individual project
St Ambrose, Medina County
Wishy-Washy: Which Detergent Works Best?

Griffen Jung

Grade: 12 Team project
Miami Valley Ctc, Montgomery County
Do Fish Need More O₂ Grow

Arya Kaggal

Grade: 7 Team project
Mason Middle School, Warren County
How Far Can The Arrow Head Fly?

Lauren Kajfasz

Grade: 9 Individual project
Beaumont School, Cuyahoga County
The Effectiveness of EOs as an Antibiotic Alternative When Combating Zoonotic Foodborne Illness

Eva Kalicki

Grade: 7 Individual project
Perry Middle School,
Franklin County
Acidic Electricity

Shrivaan Kalita

Grade: 7 Individual project
Sycamore Junior High School,
Hamilton County
DNA: Viewing and Analyzing the Ultimate Biological Tool

Matthew Kaminsky

Grade: 6 Individual project
National Inventors Hall of Fame School
Center for STEM, Summit County
Crystal Radio

Zaina Kamran

Grade: 10 Individual project
Summit Country Day, Hamilton County
Social Media Usage Among Adolescents Does Not Impact Image Scrutiny

Natalie Kandi Pierson

Grade: 6 Team project
Tippecanoe Middle School,
Miami County
Kaylee and Natalie Science Fair Project

Vishwum Kapadia

Grade: 11 Individual project
The University School - College Prep,
Cuyahoga County
Significance of Dicrotic Notch Index in Patients Undergoing Transcatheter Edge-to-Edge Repair

Japneet Kaur

Grade: 7 Individual project
Columbia Middle School, Lorain County
Smart Solution for Eco Pollution

Hannah Kendig

Grade: 12 Team project
Arcanum High School, Darke County
The Heart of Your Fear

Brock Kesler

Grade: 11 Individual project
Hilltop High School, Williams County
How Background Noise Affects Sleep

Aarohi Khanna

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Grooming: How Does It Affect The Heart

Chinmay Khare

Grade: 11 Individual project
Ottawa Hills High School, Lucas County
Prediction of Highly Site-Disordered AgS-bI4 for Multi-Junction Solar Cells Using Machine Learning

Macy Kieninger

Grade: 5 Individual project
New Albany Intermediate School,
Franklin County
Germs in Schools: What areas of the school contain the most germs?

ROSTER OF STUDENT EXHIBITORS (CONT.)

Carson Kiffner

Grade: 8 Individual project
St Paul School, Delaware County
The Effect of Sun Protectant Items on UV Light Exposure.

Claire Kilburn

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Does The Type Of Butter Affect The Texture Of A Cookie?

Jacob Kim

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
Gram + v. Gram - Resistance to Disinfecting Wipes

Thaddeus King

Grade: 6 Individual project
Buckeye Valley Local Middle School,
Delaware County
How Does Adding Ice Cream Salt to Ice Affect Temperature Transfer?

Grant Kiser

Grade: 7 Individual project
Mother Teresa Catholic, Butler County
Does temperature affect the rebound of a golf ball?

Joshua Klueber

Grade: 5 Team project
Menlo Park Academy, Cuyahoga County
Coastal Erosion: A Study on the Effectiveness of Breakwaters

Ashley Knox

Grade: 12 Individual project
Howland High School, Trumbull County
The Effects of Color During Butterfly Foraging

Joshua Knudsen

Grade: 7 Individual project
St Francis Xavier, Medina County
Turbine Power

William Kohut

Grade: 12 Individual project
Lakewood High School, Licking County
Co-polymerization of Carbon Dioxide: The Use of Cobalt Salen and Cyclohexene Oxide for Polymer Synth

Jude Konecki

Grade: 7 Individual project
Enon Montessori, Greene County
How does seat location affect the forces felt by a roller coaster rider.

Aashi Koshal

Grade: 7 Individual project
Athens Middle School, Athens County
What's in Her Head? - Aashi Koshal

Prem Koshal

Grade: 10 Individual project
Athens High School, Athens County
Who's Cutting Onions: Inhibiting the Catalytic Enzymatic Protein Alliinase

Caleb Kowalski

Grade: 7 Individual project
Put-In-Bay Elementary School,
Ottawa County
The Effects of Cover Crop Type on the Nutrient Load of Runoff

Noah Kramig

Grade: 7 Individual project
St Columban, Clermont County
Does the color of feeder impact a birds eating preferences?

Olivia Kropf

Grade: 5 Individual project
St Ambrose, Medina County
I'll Trade You Waste for Energy

Rhea Kumar

Grade: 8 Individual project
Birchwood, Cuyahoga County
Glucose Concentration After Invertase

Madison Lacy

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
Gender Impact on Success Rate of Bone Marrow Transplant in Childhood Leukemia Patients

Twayne Lai

Grade: 10 Individual project
Ottawa Hills High School, Lucas County
Exploring the Resorcin[4]arene Hexamer as a Potential Supramolecular Catalyst

Madison Laird

Grade: 5 Individual project
John F. Kennedy Catholic Lower School,
Trumbull County
The Effects of the Environment on Banana Ripeness

Isaiah Lake

Grade: 8 Individual project
Perrysburg Junior High School,
Wood County
Digging Deeper: Investigating Earthworm Diets

Michaela Lake

Grade: 8 Individual project
Perrysburg Junior High School,
Wood County
Green Thumb: Self Watering Solution

Nora Lamm

Grade: 8 Individual project
Holy Angels, Shelby County
Science Day - Which wipes are most effective when cleaning shopping carts?

Amelia Lamont

Grade: 10 Individual project
Dayton Regional STEM School, Montgomery County
Phosphorescence Rocks!

Mary Lathrop

Grade: 9 Team project
Ottawa Hills High School, Lucas County
The Effect of Different Genres of Music on Short-Term Memory

Sidonie Lauricella

Grade: 8 Individual project
Ridgewood School The, Clark County
Shades of Sensation

Collin Lee

Grade: 6 Team project
Lakeview Middle School,
Trumbull County
Inflation Investigation: Determining the Best Air Pressure for Bounce Height of Soccer Balls

Jack Lee

Grade: 5 Team project
Menlo Park Academy, Cuyahoga County
Coastal Erosion: A Study on the Effectiveness of Breakwaters

ROSTER OF STUDENT EXHIBITORS (CONT.)

Kipling Lehman

Grade: 8 Individual project
St Thomas More, Clermont County
Magnetic Levitation

Maximilian Leshner

Grade: 5 Individual project
L. T. Ball Intermediate School,
Miami County
Testing Glue Strength in Truss Bridges

Hailey Lewis

Grade: 8 Individual project
Bishop Leibold E And W Campus,
Montgomery County
Where Do Lizards Go For Lunch?

Quinten Lewis

Grade: 7 Individual project
East Canton Middle School,
Stark County
Music and the Mind

Cole Liebert

Grade: 5 Individual project
New Albany Intermediate School,
Franklin County
Water Filtration: how to clean water

Hazel Lightle

Grade: 9 Individual project
Urbana High School,
Champaign County
Time vs. Age and Math

Kingsten Lin

Grade: 11 Individual project
The University School - College Prep,
Cuyahoga County
*Developing a Precise, Contactless
Displacement Tracker for Magnetically
Deflected Ballistic Mass*

Sophia Linder

Grade: 12 Individual project
Northwestern High School,
Wayne County
*Comparing the Growth of Radish Seeds
on Soils Treated With Either Chemical
Fertilize*

Audrey Lipp

Grade: 7 Individual project
St Charles Borromeo,
Montgomery County
Polish Perfection

Brooklynn Lisch

Grade: 9 Individual project
Global Impact STEM Academy,
Clark County
*What is the Effect of Flour on Brownie
Rising and Stability?*

Alaina Lish

Grade: 5 Individual project
East Richland Christian Schools,
Belmont County
*The Comparison of Three Brands of
Laundry Detergents in Stain Removal.*

Lucas Lish

Grade: 6 Individual project
East Richland Christian Schools,
Belmont County
*The Comparison of Three Brands of Dish
Soap in Cleaning (Removing Vegetable
Oil)*

Henry Lu

Grade: 7 Individual project
Willard Grizzell Middle School,
Delaware County
*Trends and Patterns of Non-fatal Burn
and Poisoning Injuries in U.S. Children*

Daniel Lust

Grade: 11 Individual project
The University School - College Prep,
Cuyahoga County
*Characterization of Porcine Spinal Cord
Segments Using 3D Reconstruction of
Micro-CT Imaging*

Tristan Machabee

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
*Will Friction Affect Hot Wheels on
Wood, Aluminum Foil, or
Plastic the Most?*

Lea MacMichael

Grade: 9 Individual project
Geneva High School, Ashtabula County
*Utilize Bee Propolis to Reduce Mold
Growth in Bread*

Emma Maglosky

Grade: 8 Individual project
Alexander Jr. / Sr. High School,
Athens County
Bacteria: How clean is your produce

Zahir Mahmood

Grade: 9 Team project
Ottawa Hills High School,
Lucas County
*The Science Behind Edison's
Sleep Method*

Sophia Malik

Grade: 6 Team project
Hyatts Middle School, Delaware County
*What Does Fertilizer Concentration Have
to Do With Algae Growth?*

Kayrie Jade Manaiois

Grade: 8 Individual project
Ridgewood School The,
Clark County
Wind: the fuel of tomorrow

Rebecca Mangan

Grade: 8 Individual project
Sacred Heart Of Jesus,
Medina County
Positive Plants

Gabriella Maranzana

Grade: 8 Individual project
Bishop Flaget School, Ross County
*Who Has a Cleaner Mouth:
Dogs or Humans?*

Kate Marhefka

Grade: 7 Individual project
St Vincent De Paul, Knox County
Chemical Reaction

Gracie Marshall

Grade: 10 Individual project
Fairland High School,
Lawrence County
Music and Memory

Katherine Martin

Grade: 5 Individual project
St Ambrose, Medina County
Marbles Can Have Fun in the Sun!

Harper Martinez

Grade: 5 Individual project
Northwestern Elementary School,
Wayne County
Rust Race

Elise Marullo

Grade: 6 Individual project
St Mary Immaculate Conception, Wayne
County
A Rainbow Of Colors

ROSTER OF STUDENT EXHIBITORS (CONT.)

Kai Marullo

Grade: 7 Individual project
St Mary Immaculate Conception,
Wayne County
Liquid Evaporation

Paris Mason

Grade: 5 Individual project
National Inventors Hall of Fame School
Center for STEM, Summit County
The Most Melty Liquid

Ismael Masood

Grade: 8 Individual project
The University School, Cuyahoga County
*Effectiveness of different preservation
methods on food*

Emily Mast

Grade: 5 Individual project
St Mary Immaculate Conception,
Wayne County
Testing Cleaning Products

Parker Mathews

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
*Does the Temperature of Water Affect
The Growth of Spinach Plants?*

Gabriella Mathis

Grade: 7 Individual project
Zane Trace Middle School, Ross County
Stains are a Pain

James Matthews

Grade: 12 Individual project
Mentor High School, Lake County
Making Paper out of Grass

Kaiden Mauck

Grade: 12 Team project
Ellet Community Learning Center,
Summit County
*The Effects of Cross-linkers on
Vitriimer Networks*

Elizabeth Mayer

Grade: 8 Individual project
St Columban, Clermont County
*How Does Breathing Affect Heart
Rate Variability?*

Revel Mcadoo Goff

Grade: 6 Individual project
Terrace Park Elementary School,
Hamilton County
Gas Pump Germ Party

Max McCall

Grade: 7 Individual project
St Charles Borromeo,
Montgomery County
I'm Not Sorry, Reese's

Gabriel McCombs

Grade: 5 Individual project
St Ambrose, Medina County
Can VR Help Young Drivers?

Sophie McCormick

Grade: 5 Individual project
L. T. Ball Intermediate School,
Miami County
Optimal Growth of Parsley Plants

Eli McDermott

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
How does detergent affect stain loss?

Bryce McEachen

Grade: 11 Individual project
Archbishop Carroll High School, Mont-
gomery County
*Clear Sheen, Cool Roof Alternatives - A
Path to Broader Public Appeal?*

Claire McEachen

Grade: 11 Individual project
Archbishop Carroll High School,
Montgomery County
*An Examination of Age and Gender
Effects on Inter-Digit Pulse Oximetry
Measurements*

Emma McElroy

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
*How Frequently Are Dogs Affected
by CAT?*

Hailey McFadden

Grade: 6 Individual project
Huber Heights CSD,
Montgomery County
This is why we can't have nice plants

Dane McGill

Grade: 8 Individual project
St Mary, Fairfield County
5 second rule

Stephen McGowan

Grade: 7 Individual project
St Francis Xavier, Medina County
How much sugar are you drinking?

Kathleen McHenry

Grade: 9 Individual project
Urbana High School,
Champaign County
The Emotional Colors

Treyton McKee

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
*Which Fabrics and Colors Best Absorb
UV Rays?*

Jillian Medvecky

Grade: 12 Individual project
Mentor High School, Lake County
*Comparing the Amount of Bacteria and
Heavy Metals in Two Types of Artificial
Turf Infill*

Sadhil Mehta

Grade: 11 Individual project
Tippecanoe High School, Miami County
*A Quantitative Study of the Different
TensorFlow-Lite Models for Image De-
tection Using a USD dataset*

Sena Mekonnen

Grade: 12 Individual project
Eastland Career Center, Franklin County
*Analyzing the Bioethanol Output of
Macroalgae Samples
Using Fermentation*

Haasini Mendu

Grade: 11 Individual project
William Mason High School,
Warren County
*TremorSense: A Novel Parkinsonian
Tremor Monitoring and Suppression
System*

Sullivan Meneghetti

Grade: 8 Individual project
St Joseph, Lorain County
Designing a Better Battery for the Future

ROSTER OF STUDENT EXHIBITORS (CONT.)

Izzy Mercer

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
Protein Bioavailability of Goat Feed

Kaitlyn Merkle

Grade: 8 Individual project
Sacred Heart Of Jesus, Medina County
How Exercise Affects Carbon Dioxide Output

Emma Michael

Grade: 9 Individual project
Put-In-Bay High School, Ottawa County
How Do Cleansers Affect Skin's Microbiome?

Libby Michael Klatte

Grade: 9 Individual project
Archbishop Alter, Montgomery County
The Effect of Different Amounts of Phosphoric Acid on Teeth Mass

Marlia Milam

Grade: 6 Individual project
Ridgewood School The, Clark County
Which Liquid Increases Soybean Growth the Most

Amos Miller

Grade: 5 Individual project
East Richland Christian Schools,
Belmont County
Strength Comparison of Different Types of Wood

Berea Miller

Grade: 7 Individual project
East Richland Christian Schools,
Belmont County
Effectiveness of Different Soil Moisture Control Products

Kaitlyn Miller

Grade: 11 Individual project
Columbia High School, Lorain County
Dangers of Ingesting Batteries

Logan Miller

Grade: 11 Team project
Bloom-Carroll High School,
Fairfield County
Treating Micrococcus Luteus With Several Antibiotics Under Differing NaCl Concentrations

Tristan Miller

Grade: 12 Team project
Northwestern High School,
Wayne County
Compact Desktop Design

Elijah Moore

Grade: 8 Individual project
Trinity Lutheran, Lucas County
Can Salt Help Climate Change?

Jackson Moore

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
Testing the Efficacy of Pharmaceutical Compounds in Button Battery Ingestions

Brooke Moreland

Grade: 11 Individual project
Hilltop High School, Williams County
Bacterial Growth Under Acrylic Nails Compared to Non-Acrylic Nails

Alexia Morgan

Grade: 12 Individual project
Miami Valley Ctc, Montgomery County
Accountability and Mindset of High School Firefighters and EMS Students

Abhiraj Morishetty

Grade: 7 Team project
Hyatts Middle School, Delaware County
Apples at Different Temperatures

Abigail Morris

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Does Hair Dye Affect the Adsorption of Motor Oil in Hair?

Katherine Morris

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
How Does The Temperature of Water Affect The Number of Deformed Boba Pearls?

Casey Moy

Grade: 6 Individual project
Cincinnati Classical Academy,
Hamilton County
When Cells are Starving

Clare Muhl

Grade: 8 Individual project
Sacred Heart Of Jesus, Medina County
Which Compostable Material Breaks Down the Fastest?

Thomas Mullen

Grade: 7 Individual project
East Richland Christian Schools,
Belmont County
Drop Testing Packing Materials

Addison Mullins

Grade: 11 Individual project
Wheelersburg High School,
Scioto County
The Effects of Salinity Increase on Chaetomorpha

Gavyn Mullins

Grade: 12 Team project
Bethel High School, Miami County
Designing an Apparatus to Encourage Better Posture in Schools

Mary Murphy

Grade: 8 Individual project
St Mary, Fairfield County
Are Mealworms the Way to Go?

Adharsh Narendrakumar

Grade: 10 Individual project
St Ignatius High School,
Cuyahoga County
Utilizing Semantic Segmentation and ML to identify Lung Nodules within CT Scans

Thomas Natale

Grade: 5 Individual project
John F. Kennedy Catholic Lower School,
Trumbull County
Do Underwater Barriers Reduce Wave Intensity?

Abi Neal

Grade: 9 Individual project
Xenia High School, Greene County
Pitter Patter How Far Does It Spatter?

Lilliana Neal

Grade: 7 Individual project
Bishop Flaget School, Ross County
Luminescent Algae and the Effects of Supplements

ROSTER OF STUDENT EXHIBITORS (CONT.)

Caitlin Neidhard

Grade: 11 Individual project
Archbishop Carroll High School,
Montgomery County
*The Effects of Different Variables on
Eyewitness Testimony*

Sophia Neilsen

Grade: 8 Individual project
Sacred Heart Of Jesus, Medina County
*Where does our school have the
most bacteria?*

Carter Nelson

Grade: 7 Individual project
Innes Community Learning Center,
Summit County
Candy Snap

Layla Newcomb

Grade: 7 Individual project
St Mary, Lorain County
*Which lip balm can uphold hot and cold
temperatures best?*

Wesley Newman

Grade: 11 Individual project
Sylvania Northview High School,
Lucas County
*A Measurement of Protostellar Outflow
Velocities Using the Spitzer
Space Telescope*

Addison Nichols

Grade: 8 Individual project
Sacred Heart Of Jesus, Medina County
Dead Space

Rilee Norris

Grade: 11 Individual project
Miami Valley Ctc, Montgomery County
*Differences in effects of sports perfor-
mance based on rinsing and ingesting a
carbohydrate*

Dylan Nottingham

Grade: 6 Individual project
St Raphael, Cuyahoga County
*Zip-line Incline: Measuring Speed
and Time*

Xavier Nowakowski

Grade: 12 Individual project
Lincoln High School, Franklin County
Heating and cooling coffee mug

Claire Nunney

Grade: 6 Individual project
St Francis Xavier, Medina County
*Does Shoulder Angle Affect Stride
Length In Horses?*

Griffin Nuss

Grade: 7 Individual project
All Saints, Hamilton County
*Building and Busting Houses: Domes=
Good Homes? Peaks= Weak?*

Reagan Nuss

Grade: 7 Individual project
All Saints, Hamilton County
*Waves of Radiation. Are Smart Homes
Safe Homes?*

Jackie Odille

Grade: 5 Individual project
John F. Kennedy Catholic Lower School,
Trumbull County
*Will different soil brands affect how a
plant grows?*

Jo-Ann Odonkor

Grade: 8 Individual project
St Vincent De Paul, Knox County
Flocculation

Lainey O'Donnel

Grade: 7 Individual project
All Saints, Hamilton County
What Causes Teens the Most Stress?

Aaron Oldenkamp

Grade: 7 Team project
Zane Trace Middle School, Ross County
Drink Dilemma

Woodrow Oliver

Grade: 8 Individual project
Alexander Jr. / Sr. High School,
Athens County
*How Goat Manure Composting Level
Effects the Growth of Beets*

Adam Ornella

Grade: 8 Individual project
St Jude, Lorain County
*The Use of CRISPR Cas9 to Genetically
Modify E. Coli to Grow on Streptomycin/
Kan/Arabinose Plates*

Charlie Palermo

Grade: 7 Individual project
All Saints, Hamilton County
The Delicious Dispute

Bronsen Palivec

Grade: 6 Team project
Miami East Junior High School,
Miami County
*How does color have effects
on memory?*

Samhita Paranthaman

Grade: 8 Individual project
Mason Middle School, Warren County
*A novel Two-Pronged Approach to Con-
trol Harmful Algal Blooms and Mitigate
Microcystin Levels.*

Shiven Parikh

Grade: 10 Individual project
Dayton Regional STEM School,
Montgomery County
HIDDEN!

Jackson Parsons

Grade: 5 Individual project
East Richland Christian Schools,
Belmont County
*Laundry Detergent Homemade vs.
Name Brand*

Jillian Parsons

Grade: 9 Individual project
Ottawa Hills High School,
Lucas County
Does Vitamin C Prevent Colds?

Madalyn Parsons

Grade: 6 Individual project
St Francis Xavier, Medina County
*What Cleaning Method is Best for
Cleaning Wood Floors?*

Jash Patel

Grade: 7 Individual project
Incarnation, Montgomery County
*Fertilizer Runoff and Water Health in
Streams and Ponds*

Keeran Patel

Grade: 9 Individual project
The CinDay Academy, Warren County
Ion Drive Optimization

Samipa Patel

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
*The effects of various substances on
tannin-rich plants*

ROSTER OF STUDENT EXHIBITORS (CONT.)

Emma Payto

Grade: 7 Individual project
St Mary, Geauga County
Does Temperature Affect Vitamin C?

Allison Payton

Grade: 10 Individual project
Zane Trace High School, Ross County
Water Bottle Heating

Addison Pearson

Grade: 7 Team project
Kilbourne Middle School,
Franklin County
How Do Scents Affect Memory

Macy Pecka

Grade: 9 Individual project
Beaumont School, Cuyahoga County
Cyanoacrylate Fingerprint Fuming

Kaylee Peffly

Grade: 6 Team project
Tippecanoe Middle School,
Miami County
Kaylee and Natalie Science Fair Project

Mason Pegg

Grade: 5 Team project
Howland Middle School,
Trumbull County
Inflation Investigation: Determining the Best Air Pressure for Bounce Height of Soccer Balls

Allen Peppers

Grade: 7 Individual project
East Canton Middle School,
Stark County
What temperature does a basketball bounce best at?

Jason Perdue

Grade: 11 Individual project
Global Impact STEM Academy,
Clark County
How Do Different Types Of Probiotics Affect Chicken Feed Digestibility?

Emma Phillips

Grade: 5 Team project
L. T. Ball Intermediate School,
Miami County
Boat Full of Pennies

Olivia Phillips

Grade: 5 Team project
L. T. Ball Intermediate School,
Miami County
Boat Full of Pennies

Shivani Pindiprolu

Grade: 8 Individual project
Ottawa Hills High School,
Lucas County
Spacing of Text and the Efficiency of Reading

Ethan Plageman

Grade: 8 Individual project
Bloom-Carroll Middle School,
Fairfield County
Designing A Hydrophobic Object That Submerges In Microgravity

Matthew Plageman

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
Testing The Differences Between Different Shuffling Techniques

Taylor Platfoot

Grade: 8 Individual project
Holy Angels, Shelby County
What Household Item contains the most Bacteria?

Charlie Pochet

Grade: 10 Individual project
Dayton Regional STEM School,
Montgomery County
Open FC

Allie Poff

Grade: 9 Individual project
Fairland High School,
Lawrence County
Germey Phones

Emma Porter

Grade: 7 Team project
Kilbourne Middle School,
Franklin County
How Do Scents Affect Memory

Alexa Potts

Grade: 9 Individual project
Ottawa Hills High School,
Lucas County
What Grade Level Has The Dirtiest Hands?

Dominic Powell

Grade: 8 Individual project
St Vincent De Paul, Knox County
Jet Engines

Dhruv Prasanna

Grade: 7 Team project
Henry Karrer Middle School,
Franklin County
Aerodynamics & A path to reduce pollution

Cooper Price

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
How Temperature Affects the Strength of Neodymium Magnets

Soham Priyadarshree

Grade: 7 Team project
Mason Middle School, Warren County
How Far Can The Arrow Head Fly?

Molly Prochaska

Grade: 12 Individual project
Zane Trace High School, Ross County
The Determination of Electrolysis Efficiency

Alyssa Puhalla

Grade: 8 Individual project
St Charles, Mahoning County
How long does the flavor of different brands of mint gum last?

Amera Rader

Grade: 5 Team project
Graham Elementary School,
Champaign County
How High will it Rise?

Malcolm Raffensperger

Grade: 7 Individual project
Ridgewood School The,
Clark County
Treb-Pew-Chet

Owen Rainey

Grade: 5 Individual project
Unioto Elementary, Ross County
Does light affect egg production?

ROSTER OF STUDENT EXHIBITORS (CONT.)

Ragan Raj

Grade: 9 Individual project
Upper Arlington High School,
Franklin County
*Juglone's Effect on Germination and
Cellular Respiration Rates in Soybean
and Corn Varieties*

Misha Rajan

Grade: 7 Individual project
Mason Middle School,
Warren County
*Natural Alternate for Effective Wildfire
Control*

Bharath Ramanujam

Grade: 9 Individual project
Dublin Jerome High School,
Franklin County
*Leveraging Machine Learning to identify
characteristics of great NFL coaches*

Lilly Ramella

Grade: 8 Individual project
St Raphael, Cuyahoga County
Bandages To The Rescue

Zacharia Rashid

Grade: 9 Team project
Ottawa Hills High School,
Lucas County
*The Science Behind Edison's
Sleep Method*

Bennett Rau

Grade: 10 Individual project
Archbishop Alter,
Montgomery County
*The Effect of Age on the Application of
Selective Attention by Cognitive Ability*

Hardeek Rauthan

Grade: 7 Individual project
Lakota Plains Junior School,
Butler County
*How the glycemic index and the
glycemic load of food impact your
blood sugar*

Emma Register

Grade: 6 Team project
Miami East Junior High School,
Miami County
*Does the price of headphones affect the
sound quality?*

Celeste Reheiser

Grade: 11 Individual project
Dublin Coffman High School,
Franklin County
*The Strength of Intended Emotional
Themes Elicited from AI-Generated and
Human-Made Paintings*

Wyatt Reichard

Grade: 5 Individual project
New Albany Intermediate School,
Franklin County
*What surface in your house has the
most bacteria?*

Elizabeth Richard

Grade: 7 Individual project
Incarnate Word Academy,
Cuyahoga County
*Hydroponics vs. Traditional
Growing Methods*

Rebecca Rickord

Grade: 11 Individual project
Global Impact STEM Academy,
Clark County
*The Difference in Hydrogen Production
Between Salt Water and Fresh Water
Through Electrolysis*

Emily Riehle

Grade: 5 Individual project
L. T. Ball Intermediate School,
Miami County
*Light It Up: Comparing Plant Growth in
Natural Sunlight Versus Artificial Light*

Carley Rieman

Grade: 12 Team project
Arcanum High School, Darke County
The Heart of Your Fear

Arhem Rizvi

Grade: 6 Individual project
Ridgewood School The, Clark County
Dissolve the Pain

Keegan Robinson

Grade: 6 Individual project
Chesapeake Middle School,
Lawrence County
Just Breathe: Is the Vest Best?

Elaina Rockwell

Grade: 10 Individual project
Global Impact STEM Academy,
Clark County
Polyurethane Sponges and Fungi

Olivia Rodriguez

Grade: 10 Individual project
Archbishop Carroll High School, Mont-
gomery County
*Effectiveness of Lithium-Ion Batteries
Based on Price, Charging Time,
& Efficiency*

Alice Rogers

Grade: 6 Team project
Graham Middle School,
Champaign County
*Can Different Liquids Change A
Plant's Height?*

Kyle Rose

Grade: 9 Team project
Ottawa Hills High School,
Lucas County
Effects of Plants on Water Erosion

Ethan Rowles

Grade: 7 Individual project
Sts Philip And James, Stark County
The Wind Turbine Experiment

Claire Rudy

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Stain Resistance of Fabrics

Ashton Runion

Grade: 6 Individual project
Chesapeake Middle School,
Lawrence County
Are You Ready to Fly!

Gabe Runyan

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Temperature Affect On Glow Sticks

Elsa Ryai

Grade: 7 Individual project
St Ambrose, Medina County
Is All-natural Better?

Colleen Sableski

Grade: 9 Individual project
Archbishop Carroll High School,
Montgomery County
*The Effect Of Ankle Exercises on Irish
Dancers Ankle Strength*



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ROSTER OF STUDENT EXHIBITORS (CONT.)

Mason Saggio

Grade: 6 Individual project
Bishop John King Mussio Central Junior High School, Jefferson County
Are There Limits to Our Perception of Apparent Motion?

Liam Sample

Grade: 7 Individual project
Mother Teresa Catholic, Butler County
Does age affect how the brain processes information?

Sophia Sandel

Grade: 7 Individual project
Our Lady Of Perpetual Help, Franklin County
Which Filtration Material Leads To The Best Drinking Water?

Siya Sangwan

Grade: 12 Individual project
Sylvania Northview High School, Lucas County
The Role of Acetylcholine Muscarinic Receptor 3 Modulators in Primary Cilia with PKD

Doyle Sargent

Grade: 9 Individual project
Bloom-Carroll High School, Fairfield County
Does Tube Amplification Naturally Have Higher Bass Frequencies When Compared To Others?

Om Sathishkumar

Grade: 7 Individual project
Mason Middle School, Warren County
Bioremediation of Textile Dye Wastewater

Maisie Schelle

Grade: 8 Individual project
Global Impact STEM Academy, Clark County
Does Pumice, Sandstone or Shale Erode the Quickest?

Julie Scherzer

Grade: 12 Individual project
Lincoln High School, Franklin County
Considering the Mental Health of Future Mars Inhabitants Through the Growth of Flowers

Anna Schmitt

Grade: 9 Individual project
Archbishop Carroll High School, Montgomery County
The Effect of Soil Density on Glycine max Growth

Liam Schnettler

Grade: 8 Individual project
St Columban, Clermont County
Flight Trajectory by Launch Angle

Cristian Schrock

Grade: 7 Individual project
Bellbrook Middle School, Greene County
What is the Best Angle to Cast a Fishing Rod for Distance?

Liam Scott

Grade: 5 Individual project
St Mary Immaculate Conception, Wayne County
Taste and Test

Maximilian Seifried

Grade: 7 Individual project
St Mary Immaculate Conception, Wayne County
The Great Aphid Feast

Rithvan Senthil

Grade: 7 Team project
Eversole Run Middle School, Union County
Aerodynamics & A path to reduce pollution

Coco Sethi

Grade: 7 Individual project
Hathaway Brown, Cuyahoga County
Chocolate Made With Cocoa

Zahran Shams

Grade: 11 Individual project
Mentor High School, Lake County
Quantum Sudoku

Connor Shank

Grade: 8 Individual project
The University School, Cuyahoga County
Redesigning the Harman Target

Evan Sharbaugh

Grade: 9 Individual project
Archbishop Alter, Montgomery County
The Effect of Password Characters on the Ability to Crack The Password

Stella Sharp

Grade: 10 Individual project
Archbishop Carroll High School, Montgomery County
The Effect of Antibiotics on Rhodospirillum rubrum and Bacillus cereus

Adan Sheik

Grade: 11 Individual project
Ursuline, Mahoning County
Examining the Effects of Chemical Pollution in East Palestine Soil Through Biological Assay

Madelyn Shenberger

Grade: 8 Individual project
Ashland Christian, Ashland County
How Does Art Affect Emotion?

Bryan Shin

Grade: 10 Individual project
Solon High School, Cuyahoga County
Rational Design and Testing of Natural Hemostatic Hydrogel Using Plant Materials

Amelia Shipley

Grade: 7 Individual project
Incarnate Word Academy, Cuyahoga County
Power Kicks: The Physics of Martial Arts

Lowell Shreve

Grade: 9 Team project
Ottawa Hills High School, Lucas County
Effects of Plants on Water Erosion

Alishba Siddiqi

Grade: 7 Individual project
Lake Ridge Academy, Lorain County
Is it Time to Say Goodbye to Plastic?

Amaan Siddiqi

Grade: 10 Individual project
Lake Ridge Academy, Lorain County
Rechargeable Total Artificial Heart

ROSTER OF STUDENT EXHIBITORS (CONT.)

Zia Siegel

Grade: 7 Individual project
Hilltop High School, Williams County
Which Instant Acid Relief Medication has the Greatest Affect on pH?

Corinne Simpson

Grade: 10 Individual project
Archbishop Alter, Montgomery County
The Chemistry of Gluten-Free Flours and its Physical Effects on Sugar Cookies

Donald Simpson

Grade: 12 Individual project
Anna High School, Shelby County
How different Breathing Techniques Effects Exercise

Ananya Singh

Grade: 11 Individual project
Sylvania Northview High School, Lucas County
MDMA Toxicity in Zebrafish

Addi Smith

Grade: 8 Individual project
Hilltop High School, Williams County
Which Flour Affects Rise the Most in Chocolate Chip Cookies?

Jaymes Smith

Grade: 7 Individual project
Alliance Middle School, Stark County
Dimples, Spin and Distance Oh My

Jonte Smith

Grade: 12 Team project
Garfield Community Learning Center, Summit County
Optimization of Photo pigments Extractions Using Low Biomass Micro Algae Samples

Lily Smith

Grade: 6 Team project
Zane Trace Middle School, Ross County
Playground Bacteria

Quentin Smith

Grade: 6 Individual project
Chillicothe Intermediate School, Ross County
How Do Drone Rotors Compare to Full-Sized Helicopter Rotors?

Ty'Onna Smith

Grade: 12 Individual project
David H. Ponitz Career Technology Center, Montgomery County
Killer Kombucha

Collin Snider

Grade: 11 Team project
Tippecanoe High School, Miami County
Fuel For Thought

Milan Snoody

Grade: 12 Individual project
Ellet Community Learning Center, Summit County
Germination of Plants and Earthworms

Aviraj Sojin

Grade: 9 Team project
Yellow Springs/McKinney High School, Greene County
Objective Scientific Comparison of Organic Vs Non-Organic Fruits

Dhilen Sojin

Grade: 9 Team project
The Miami Valley School, Montgomery County
Objective Scientific Comparison of Organic Vs Non-Organic Fruits

Josie Sommer

Grade: 5 Individual project
L. T. Ball Intermediate School, Miami County
The Soda and Mentos Lab.

Cole Soranno

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Loop Shape vs Drop Height

Tatyana Sowerby

Grade: 11 Individual project
Mentor High School, Lake County
Accounting for Climate Change in projections of SOC sequestration in farms of Northeast Ohio

Lylie Spittler

Grade: 7 Individual project
Milton-Union Middle School, Miami County
What Music is Best for Focus?

Colby Sprague

Grade: 12 Individual project
Bloom-Carroll High School, Fairfield County
The Model Model; What is the Most Effective Scientific Model for the Blind?

Nandita Srikumar

Grade: 10 Individual project
Solon High School, Cuyahoga County
Effect of Curcumin and EGCG on the Interaction Between CRMP-2, Tau, and CDK5 in Alzheimer's Disease

Tejas Sriram

Grade: 8 Team project
Olentangy Shanahan Middle School, Delaware County
A Heartfelt Impact - Analyzing Magnetic Radiation's Effect on the Human Cardiovascular System

Diondra Stahl

Grade: 7 Individual project
St Paul, Columbiana County
Is Your Drinkware Safe?

Dana Stan

Grade: 11 Individual project
New Albany High School, Franklin County
GEAR: Gear Efficiency and Analysis of Ratios

Cameron Stanley

Grade: 6 Individual project
Valley Christian School, Mahoning County
How effective are bioswales?

Will Stephans

Grade: 11 Individual project
The University School - College Prep, Cuyahoga County
Interactions between BRAF-mutated and wild-type lung cancer at varying doses of target drug

Leo Stevens

Grade: 6 Individual project
Terrace Park Elementary School, Hamilton County
Germy Jobs

Sebastian Stevens

Grade: 12 Individual project
Ottawa Hills High School, Lucas County
Effects of Flex Pro Grip on a Pitchers Spin Rate

ROSTER OF STUDENT EXHIBITORS (CONT.)

Kara Stewart

Grade: 8 Individual project
Holy Angels, Shelby County
Do Carcinogens Affect Soybean Growth?

Magdalene Stewart

Grade: 7 Individual project
St Mary, Fairfield County
Appliance Efficiency

Sebastian Stinaff

Grade: 6 Individual project
The Plains Intermediate School,
Athens County
*Does the number of colored pairs affect
solve time and number of moves?*

Seraphine Stinaff

Grade: 7 Individual project
Athens Middle School, Athens County
How do different activators affect slime?

Kayla Stine

Grade: 7 Individual project
Jackson Memorial Middle School,
Stark County
The Effects of Lyrics on Memorization

Lydia Stokes

Grade: 10 Individual project
Global Impact STEM Academy,
Clark County
*How Does The Caffeine in Energy Drinks
Affect The Human Body?*

Eleanore Stowe

Grade: 7 Individual project
Athens Middle School, Athens County
*Kratky vs Deep Water Culture, Which
Ones Better?*

Caroline Strottman

Grade: 7 Individual project
St Columban, Clermont County
*Does the Health of the Little Miami River
Deteriorate as it Flows Downstream?*

Harper Stukus

Grade: 5 Individual project
New Albany Intermediate School, Frank-
lin County
The Colors Birds Like

Naavya Sunil

Grade: 6 Individual project
Hyatts Middle School, Delaware County
Piezoelectricity Generation Experiment

Mackenzie Susor

Grade: 7 Individual project
Jackson Memorial Middle School,
Stark County
The Effect of Acidity on Molding Cheese

Tristan Swangstu

Grade: 12 Individual project
Sylvania Northview High School,
Lucas County
*Palladium-Catalyzed C-H Activation of
Benzylamines and Allylamines*

Isabelle Swindler

Grade: 10 Individual project
Fairland High School, Lawrence County
Upcycling Plants

Sophia Szolosi

Grade: 10 Individual project
Athens High School, Athens County
*The Relationship Between Personality
Type and Use of Emotional Regulation
Strategies Among Runners*

Afhan Taha

Grade: 12 Individual project
Mentor High School, Lake County
*Exercise Behaviors and Nocturnal Hypo-
glycemia Patterns in Young Adults with
Type 1 Diabetes*

Neha Tamang

Grade: 8 Individual project
Jennings Community Learning Center,
Summit County
How Does a Chinese Lantern Fly

Maya Tang

Grade: 11 Individual project
Hathaway Brown, Cuyahoga County
*Aggregation Properties And Cellular Lo-
calization of Mutant Human and Murine
M cone Opsin*

Arya Tangirala

Grade: 8 Team project
Olentangy Shanahan Middle School,
Delaware County
*A Heartfelt Impact - Analyzing Magnetic
Radiation's Effect on the Human Cardio-
vascular System*

Hannah Taylor

Grade: 12 Individual project
Fairland High School, Lawrence County
Need for Speed

Elizabeth Thomas

Grade: 11 Individual project
Sylvania Northview High School, Lucas
County
*Differences in Stress Perceptions
between Advanced Placement
Students and Educators*

Matthew Thomas

Grade: 8 Individual project
St Paul School, Delaware County
*What is the Ideal Way to Build a
Proximity Sensor?*

Owen Thomas

Grade: 8 Individual project
Liberty Union Middle School,
Fairfield County
*Can The Grade Level You're In and Sleep
Affect Your Daily life?*

Kear Thompson

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
*Testing How Cold Weather Crops Grow
and Survive in a Martian Soil Simulant.*

Lucy Thompson

Grade: 6 Individual project
Bishop Flaget School, Ross County
*Does Mouthwash Inhibit
Bacterial Growth?*

William Thompson

Grade: 8 Individual project
Bishop Flaget School, Ross County
*How Does Voltage Affect the Rotation
Speed of a DC Motor?*

Aashrith Thoomula

Grade: 7 Team project
Hyatts Middle School, Delaware County
Apples at Different Temperatures

Mannat Thumati

Grade: 8 Individual project
Solon Middle School, Cuyahoga County
Temperature And Surface Tension

Anna Thurman

Grade: 10 Individual project
Archbishop Carroll High School,
Montgomery County
*The Effect of Different Acidity Levels in
the Stomach on Iron Absorption*

ROSTER OF STUDENT EXHIBITORS (CONT.)

Martin Tkachenko

Grade: 5 Team project
Menlo Park Academy, Cuyahoga County
Coastal Erosion: A Study on the Effectiveness of Breakwaters

Katherine Toepfer

Grade: 12 Individual project
Howland High School, Trumbull County
Red or Blue? How Color Impacts Stress.

Quinn Toth

Grade: 12 Individual project
Eastland Career Center,
Franklin County
The Effects of Kaempferol on Drosophila melanogaster with Parkinson's Symptoms

Ian Truebenbach

Grade: 7 Individual project
Global Impact STEM Academy,
Clark County
Which probiotic treatment provides the highest protein concentration after digestion for pigs?

Braxten Trump

Grade: 12 Individual project
Miami Valley Ctc, Montgomery County
Blazing Under Pressure- Braxten Trump

Sophia Tsitouris

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
How Does Cooking Method Affect Vitamin C Levels In Spinach

Blathnaid Twomey

Grade: 5 Individual project
New Albany Intermediate School,
Franklin County
Sense of Balance

Alanna Tyson

Grade: 7 Individual project
Our Lady Of Perpetual Help,
Franklin County
Do Plants Grow Faster When Grown Hydroponically Rather Than Soil-Based?

Chizor Ugwummadu

Grade: 6 Individual project
St Charles Borromeo,
Montgomery County
Work Before Watch

Braxton Unger

Grade: 7 Team project
Zane Trace Middle School, Ross County
Drink Dilemma

Pranya Vaddadi

Grade: 10 Individual project
William Mason High School,
Warren County
Optimizing Cost-Effective Hydrogen Production and Storage for Sustainable Energy Applications

Jon Valentine

Grade: 12 Individual project
Upper Valley Career Center,
Miami County
Visual Effects on Reaction Time

Ela Van Oss

Grade: 8 Team project
Tippecanoe Middle School,
Miami County
Pet Personality Project

Briar Van Sickle

Grade: 10 Individual project
Minford High School, Scioto County
Soothing Snakes By Scent - Can You Train A Snake To Recognize And Accept You Using Your Scent?

Dylan Vance

Grade: 11 Individual project
Benjamin Logan High School,
Logan County
A Two-Year Study of The Presence of Microplastics Within Indian Lake, Logan County

Emilee VanSkiver

Grade: 12 Individual project
Lehman High School, Shelby County
The Bioassays of Fertilizer and its Affect on Daphnia Magna

Ritika Varghese

Grade: 11 Individual project
Sylvania Northview High School,
Lucas County
Light-Mediated Difunctionalization of Alkenes for Drug Development

Foster Varian

Grade: 7 Individual project
East Canton Middle School,
Stark County
Does Load Placement Matter When Hauling

Benton Verrill

Grade: 9 Individual project
Lehman High School, Shelby County
The Effect of Rooftop Gardens on Internal Building Temperatures

Autumn Vick

Grade: 7 Team project
Zane Trace Middle School, Ross County
Sun Safe Solutions

Wyatt Vick

Grade: 12 Team project
Zane Trace High School, Ross County
Piezoelectric Energy Harvester

Dawson Vocke

Grade: 6 Team project
Tippecanoe Middle School,
Miami County
The coding of an automatic doggy door treat dispenser

Eli Voisard

Grade: 11 Team project
Tippecanoe High School,
Miami County
Fuel For Thought

Alexander Wang

Grade: 6 Individual project
Indian Hill Middle School,
Hamilton County
Does playing Minecraft increase IQ?

Ryan Wang

Grade: 11 Individual project
The University School - College Prep,
Cuyahoga County
Development of Persistent DNA Vectors for Safe and Lasting Non-viral Gene Therapies

Elison Ward

Grade: 8 Individual project
Bishop Flaget School, Ross County
Does Conditioner Affect Colored Hair?

ROSTER OF STUDENT EXHIBITORS (CONT.)

Graydon Ward

Grade: 7 Individual project
Perrysburg Junior High School,
Wood County
*Testing mechanical properties of 3D
printing materials*

Kali Ward

Grade: 7 Individual project
Zane Trace Middle School, Ross County
Plant Vibrations

Paige Ward

Grade: 9 Individual project
Bloom-Carroll High School,
Fairfield County
Is Synesthesia a Learnable Trait?

Libby Watson

Grade: 9 Individual project
Lynchburg-Clay High School,
Highland County
*The Effect of the Five-Second Rule on
Human Health.*

Hayden Weaver

Grade: 6 Individual project
East Richland Christian Schools,
Belmont County
*How Air Pressure Affects Distance of a
Soccer Ball*

Gracie Weber

Grade: 6 Individual project
Fairfield Christian Academy,
Fairfield County
What's in a bite

Aaron Welch

Grade: 5 Individual project
Northwestern Elementary School,
Wayne County
*Does the Amount of Sugar Cause
Tooth Decay?*

Sonia Wen

Grade: 12 Individual project
Upper Arlington High School, Franklin County
*The function of IRF-7 in relation to
antitumor immunity in the
cGAS-STING pathway*

Caraline West

Grade: 9 Individual project
Lynchburg-Clay High School,
Highland County
*The Effect of Different Types of Water on
Radish Seeds*

Larry West

Grade: 11 Team project
Bloom-Carroll High School,
Fairfield County
*Treating Micrococcus Luteus With
Several Antibiotics Under Differing NaCl
Concentrations*

Delia Wetherell

Grade: 8 Individual project
Bishop John King Mussio Central Junior
High School, Jefferson County
*What Form of Insulation is Most
Effective For a Coat?*

Samuel White

Grade: 8 Individual project
St Charles Borromeo,
Montgomery County
Bacteria in School

Grace Whitmore

Grade: 12 Individual project
Global Impact STEM Academy,
Clark County
*The Nutritional Viability and Protein
Absorbance of Insect and Plant Sources
for Malnutrition.*

Robert Whittington

Grade: 10 Individual project
Zane Trace High School, Ross County
Mycelia's effect on fertilizers

Jonathon Widdows

Grade: 12 Team project
Northwestern High School,
Wayne County
Compact Desktop Design

Ava Wiget

Grade: 6 Team project
Zane Trace Middle School, Ross County
Yoga & Flexibility Challenge

Evelyn Wiget

Grade: 7 Team project
Zane Trace Middle School, Ross County
Battery Battle

Kendall Wild

Grade: 8 Individual project
Bloom-Carroll Middle School,
Fairfield County
Alpacas: It's All About the Fleece

Savannah Wilde

Grade: 11 Individual project
Bloom-Carroll High School,
Fairfield County
*The Effect of pH in a Microvascular
Decompression Surgery for
Trigeminal Neuralgia*

Sam Wilson

Grade: 12 Individual project
Lincoln High School, Franklin County
*3D Printing a Knee Ankle Foot Orthotic
for the Treatment of Hypermobility Ehlers
Danlos Syndrome*

Natalie Winstel

Grade: 7 Individual project
All Saints, Hamilton County
Does Distraction Affect Memory?

Carli Wireman

Grade: 6 Team project
Zane Trace Middle School, Ross County
Hand Sanitizer or Soap

Leah Wiseman

Grade: 7 Team project
Zane Trace Middle School, Ross County
Battery Battle

Maggie Witt

Grade: 6 Individual project
Holy Angels, Shelby County
*Does Heavy Metal Or Classical Music
Make Cilantro Grow Taller*

Jenna Wolters

Grade: 12 Individual project
Anna High School, Shelby County
*An Examination of Quantity of
Microorganisms at Different Locations
of the School*

Aviva Wood

Grade: 10 Individual project
Athens High School, Athens County
*Investigating the Roles of Nitric Oxide
and UV Radiation in the
Expression of PD-L1*

Avery Woodring

Grade: 5 Individual project
Northwestern Elementary School,
Wayne County
Now You See Me, Now You Don't

ROSTER OF STUDENT EXHIBITORS (CONT.)

Emilie Wright

Grade: 7 Individual project
St Mary, Washington County
Which Color Improves Studying?

Everleigh Wright

Grade: 7 Individual project
St Vincent De Paul, Knox County
Gray Water

Joseph Wright

Grade: 12 Individual project
Dayton Regional STEM School,
Montgomery County
*CFD Simulations Prevent
Brain Aneurysms*

Avery Wyan

Grade: 8 Individual project
Holy Angels, Shelby County
*Does the Running Distance Affect the
Distance Traveled Off the Vault Table?*

Anavi Yemulwar

Grade: 6 Team project
Hyatts Middle School, Delaware County
*What Does Fertilizer Concentration Have
to Do With Algae Growth?*

Xinyo You

Grade: 11 Individual project
Western Reserve Academy,
Summit County
*Functionalized Gold Nanoparticles Serve
as Nanovaccine to Boost
Immune Protection for Cancer*

Lorcan Young

Grade: 8 Individual project
Global Impact STEM Academy,
Clark County
*What is the amount of sound decibels
that leak through Fiberglass, Rubber,
and Acoustic Membrane*

Steven Zhang

Grade: 9 Individual project
Olentangy High School,
Delaware County
*The effects of Acetone on different
plastic polymers.*

Kaylin Zheng

Grade: 9 Team project
Ottawa Hills High School, Lucas County
*Do Gel Capsules Dissolve Faster
Than Tablets?*

Jackson Zitzner

Grade: 7 Team project
Global Impact STEM Academy,
Clark County
What is the Stretchiest Cheese?

Abby Zulantz

Grade: 7 Individual project
St Mary, Geauga County
*Which Type of Apple Stays Freshest
the Longest?*

Jo Zulia-Davis

Grade: 7 Individual project
Athens Middle School, Athens County
*The Effect of Minerals on Acid Mine
Drainage Remediation*

Congratulations Student Exhibitors!



Michael Woytek of OAS (right) poses with the Six Year Awardees, Sadhil Mehta, Bryn Morgan, Marissa Shook and Dana Stan.

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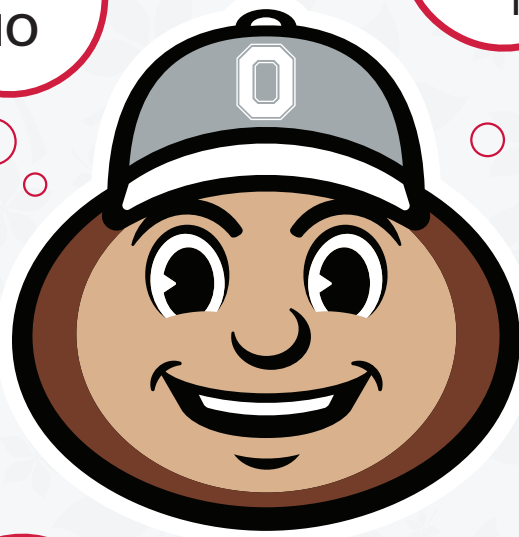
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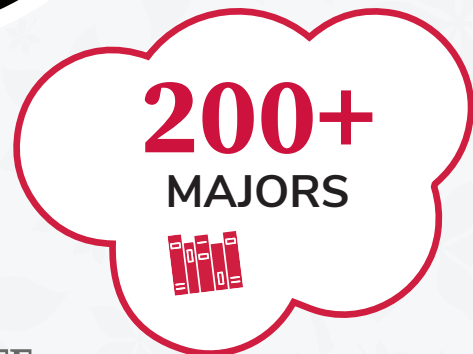
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Governor's Thomas Edison Awards for Excellence in STEM Education

About the Governor's Awards

First established in 1985, under Gov. Celeste's Administration, The Governor's Thomas Edison Awards for Excellence in Student Research and STEM Education are presented to Ohio students, schools, and teachers who extend STEM education beyond traditional classroom activities. Award certificates are presented to each school and a press release recognizes each of the school's STEM teachers for this high achievement.

School and Teacher Awards

The Governor's Thomas Edison Excellence of STEM Education recognizes teachers and schools that focus on STEM education and provide additional opportunities for youth science beyond the classroom.

Criteria for School and Teacher Awards

1. Conduct a local science fair with 12 or more students and have two or more of these students participate at the 2024 District Science Day -OR- have 6 or more students participate at one of the Academy's 2024 District Science Days.
2. Students must participate in at least one more youth science opportunity beyond the classroom: State Science Day, Ohio STEP (formerly Believe in Ohio), Regional Science and Engineering Fairs, Regeneron Science Talent Search, Regeneron International Science & Engineering Fair, MATHCOUNTS, JSHS, B-WISER Camp, Engineer-for-a-Day Program, TSA:TEAMS, OM, Physics Olympics, Science Olympiad, Invention League, or other structured, STEM-related youth activities at museums and nature centers, extensive field experiences, and mentorships at colleges and industries.
3. Documentation: The principal must write and personally sign a cover letter on school letterhead that lists the teacher or members of the teaching team most responsible for participation in the student activities. The cover letter from the principal, a two-page summary and

DOCUMENTATION should not exceed 20 pages. Complete application packages must be uploaded in PDF format by July 20, 2024.

- Provide a maximum two-page summary description with attached documentation as to how and to what extent the school's program(s) meet(s) the Academy's definition of STEM education. The summary needs to present a compelling case for your application. See [What is STEM Education?](#)
- Include a table or matrix that identifies and affirms the specific roles or contributions of each teacher nominated.
- Due to the page limitation, it is not necessary to include copies of certificates earned by students. Instead, use this space to summarize what students have accomplished, show examples of how the school provides continuity between grades and schools, discuss the number of students your programs reach, how your programs meet the curriculum standards, etc. You are encouraged to provide links to news stories that reviewers could also view.

The entire application should not exceed 20 pages. Each submission must include (1) a cover letter (2) two-page summary, (3) documentation. Complete application packages must be uploaded in a single PDF format by July 20, 2024. <https://form.jotform.com/OhioScience/edison-award>

For current award information visit:
<https://www.ohiosci.org/governor-teacher/>



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