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## **Kamiah students earn top honors at regional science fair**

COEUR D'ALENE, Idaho (March 25, 2020) — Two student projects from Kamiah High School earned Best in Fair at the 2020 Northern Idaho Science and Engineering Fair, and one from Coeur d'Alene High School garnered Fair Runner Up. They were among 85 projects that 135 students from a dozen North Idaho schools presented at the fourth annual event, which the Idaho STEM Action Center staged March 13 at the Coeur d'Alene Resort Conference Center.

### ***Best in Fair winners***

“Effectiveness of Lavandula Scents on Deterring *Odocoileus Virginianus* and *Cervus Canadensis* from Harming Agricultural Crops” by Kamiah High School junior Cecily Puckett earned one of two Best in Fair awards. In addition, Puckett garnered the Best in Category award in Animal, Biomedical, and Microbiological Sciences, a Category Gold award, and a Genius Olympiad Award. She also earned a Best in Fair award at the 2019 Northern Idaho Science and Engineering Fair.

Fellow Kamiah junior Mya Barger’s “Comparing the Effectiveness of Two Types of Equine-assisted Therapy on Anxiety and Stress in Humans.” garnered the other Best in Fair award, as well as the Best in Category award in Behavioral and Social Sciences. Barger also received a Category Gold award and several special awards, including the American Psychological Association Award, third place from the Idaho Academy of Science & Engineering, and an Office of Naval Research Award.

On top of serious bragging rights, the Best in Fair winners will represent Idaho at the Regeneron International Science and Engineering Fair in May.

### ***Fair Runner Up***

Coeur d'Alene High School seniors Hope McWilliams, Kristen Nethercott, and Lucy Pavey earned Fair Runner Up for their project “Synthesizing a Fluorescent Molecule Using the Copper Catalyzed Azide Alkyne Cycloaddition Reaction.” They also won Best in Category in Physical Sciences and a Category Gold award.

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### ***Five strands, many awards***

Students in ninth through 12th grades throughout North Idaho were eligible to submit entries in six categories: Animal, Biomedical, and Microbiological Sciences; Behavioral and Social Sciences; Earth, Environmental, and Plant Sciences; Physical Sciences; Engineering; and Mathematics, Computer Science, and Embedded Systems.

Students from Grangeville, Lewiston, and Moscow captured the three remaining Best in Category awards:

- “Magnetic Space Plants” by Grangeville High School junior Laney Daniels and senior Katrina Wolfrum earned a Best in Earth, Environmental, and Plant Sciences and a Category Gold award.
- “Recycling Generator” by Lewiston High School seniors Dylan Horak, Ty Johannesen, and Alexander Pfaff earned a Best in Category in Engineering, a Category Gold award, and the Ricoh Sustainable Development Award.
- “Name Authority Control in a Linked Data Environment” by Moscow High School senior Jieyan Wang — a 2018 Best in Fair winner — earned a Best in Category in Mathematics, Computer Science, and Embedded Systems, as well as a Category Gold award and the Bearden Award for Women in Computer Science. The latter award, which also includes a \$500 cash prize, is a new accolade funded by longtime Idaho resident Elizabeth “Betsy” Bearden for the female or team of females whose research exemplifies high standards of innovation in creating solutions with computer science.

Moscow High School junior Ammon Kunzler, whose project “Patterns and Proofs in the Collatz Conjecture” earned a Category Gold award, the Mu Alpha Theta Award, and an Office of Naval Research Award, was named the fair’s official observer at Regeneron ISEF in May. The STEM Action Center selects observers for the international fair so they can apply what they learn to their state fair entries the following year and share insights with fellow students.

The STEM Action Center selected a second observer from NISEF based on available spaces and statewide rankings: Nicole Xiao, also from Moscow High School. In addition, the sophomore’s Earth, Environmental, and Plant Sciences entry, “Genetically Modifying Tomatoes to Have Earlier Flowering Periods,” earned a Category Gold award, a Genius Olympiad Award, a certificate from the U.S. Agency for International Development, and first place from the Idaho Academy of Science & Engineering.

Judges honored seven more projects with Category Gold awards: “Electrophysiology: Cockroach Manipulation,” an Animal, Biomedical, and Microbiological Sciences entry by Lewiston High School junior George Forsmann and senior Conner Kottkey; “Parental Influence on Climate Change,” a Behavioral and Social Sciences entry by Grangeville High School junior Emma Edwards; “Turning Algae Into Fertilizer,” an Earth, Environmental, and Plant Sciences entry by Grangeville High School freshman Tyler Zimmerman; “Methods to Reduce Food Waste in Local Schools,” an Earth, Environmental, and Plant Sciences entry by Post Falls High School sophomore Miles Butler; “Solar Panel Roof for EV’s,” an Engineering entry by Lewiston High School seniors Carlos Arteaga, Connor McKinley, and Nicholas Rinard; and “Ballistics Test,” a Physical Sciences entry by Post Falls High School freshman Pierce Gural.

The STEM Action Center also presented 22 projects with Category Silver awards and an additional 19 special awards from the American Meteorological Society, ASM Materials Education Foundation, Association for Women Geoscientists, Genius Olympiad, the Idaho Academy of Science and Engineering, NASA, the National Oceanic and Atmospheric Administration, the Office of Naval Research, the Society for In Vitro Biology, the Stockholm International Water Institute, the U.S. Air Force, the U.S. Metric Association, and the Yale Science and Engineering Association.

Grangeville High School earned the Top School award. The accolade is calculated based on total projects and total category awards, including Silver, Gold, Best in Category, and Best in Fair. Science teachers Shaun Bass and Naomi Finnegan coached Grangeville High’s participants, which earned one of the six Best in Category awards, three of the 14 Category Golds, and two of the 22 Category Silvers.

Kamiah High School science teacher Janna Privette, who mentored both Best in Fair winners, was named NISEF’s top-performing educator.

A group of local experts from an array of STEM-related fields served as judges.

### ***One of three regional fairs***

NISEF is one of three regional science fairs the STEM Action Center stages statewide each spring. Boise State University hosted the Western Idaho Science and Engineering Fair March 6, and Idaho State University hosted the Eastern Idaho Science and Engineering Fair in Pocatello Feb. 28. The Best of Fair winners from those events and select observers will also represent Idaho at the international science fair courtesy of the STEM Action Center.

### ***Ensuring economic prosperity***

According to STEM Action Center executive director Dr. Angela Hemingway, competitions like the Idaho Science and Engineering Fairs are important to the state’s future, because they offer students opportunities to engage in original research projects aligned with their interests and meet and learn with other motivated students in their area.

“The quality of the research presented at Idaho STEM competitions is impressive and the work our students are doing is competitive at the international level,” Dr. Hemingway said. “The technical skills gained from participating in these events, as well as the ability to communicate results, think deeply and critically about issues, and solve real-world problems, will serve our students well as they transition into the workforce.”

In addition to facilitating critical and creative thinking, problem solving, innovation, and collaboration, she said STEM skills are needed for 17 of Idaho’s 20 fastest growing jobs and that STEM jobs pay more than twice as much as non-STEM jobs.

“The state anticipates 20 percent job growth in STEM careers — including health care, computing, engineering, and advanced manufacturing — by 2026,” Dr. Hemingway said. “Currently there are nearly 86,000 STEM workers statewide, and the Idaho Department of Labor predicts we may have 105,000 STEM jobs by 2026 — a 19,000-job increase in just six years from now. It is critical we build the STEM talent pipeline now so Idahoans have the knowledge and skills required to fill these high-demand STEM jobs now and in the future.”

She said these jobs will represent about \$7 billion in personal income and about \$352 million in tax revenue if Idaho’s workforce is poised to fill them.

### ***About the Idaho STEM Action Center***

The Idaho STEM Action Center was created in 2015 because Idaho citizens are not entering the STEM pipeline fast enough to meet current and future Idaho workforce needs. Its goals are to increase access to STEM opportunities, align education and workforce needs, and amplify awareness of STEM throughout Idaho. The organization is working with industry, government, educators, and students to develop new resources and support high-quality professional-development opportunities to foster a STEM-educated workforce that ensures Idaho’s continued economic prosperity.

Visit [STEM.idaho.gov](https://STEM.idaho.gov) for more information, and visit <https://STEM.idaho.gov/support-us/foundation> to make a tax-deductible donation to the Idaho STEM Action Center Foundation, a 501(c)(3) nonprofit organization, to enhance the investment the state has made in Idaho’s STEM community. Contributions provide greater access to STEM camps for children, student competitions, and many other life-shaping programs.

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