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Palouse students earn top honors at Northern Idaho science fair

COEUR D'ALENE, Idaho (March 17, 2022) — Student projects from Lewiston High School and Moscow High School earned Best in Fair at the 2022 Northern Idaho Science and Engineering Fair, and one from Coeur d'Alene High School garnered Fair Runner Up. They were among 62 projects that 88 students from 10 schools presented at the sixth annual event, which the Idaho STEM Action Center staged March 11 at the Coeur d'Alene Resort Conference Center.

Best in Fair winners

“Electromagnetic Brakes” by Lewiston High School senior Jesse St. Onge earned one of two Best in Fair awards. In addition, his Engineering, Math, and Computer Science entry earned a Category Gold award and several special awards, including a Genius Olympiad Award, an Office of Naval Research Award (which includes a \$50 gift card), and the Lewis Award for Engineering (which includes a \$250 cash prize).

Moscow High School junior Caden Perry garnered the other Best in Fair award for his project, “Combining the Efficiency of a Helicopter with the Stability of a Tricopter.” He also earned Best in Category in Engineering, Math, and Computer Science, a Category Gold award, and the U.S. Air Force Award, one of the fair’s special awards.

On top of serious bragging rights, the Best in Fair winners will represent Idaho at the Regeneron International Science and Engineering Fair in May. The winning teams from each Idaho regional science fair and their mentors earn all-expense-paid trips to attend and compete in the event in Atlanta May 7-13.

Fair Runner Up

Coeur d'Alene High School seniors Zoey Hart and Ellie Morrisroe earned Fair Runner Up for their project “Calculating Mass of Molecular Biosubstances.” They also won Best in Category in Physical Sciences, a Category Gold award, and first place from the Idaho Academy of Science & Engineering (which includes a \$75 cash prize), one of the fair’s special awards.

Five strands, many awards

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

Grangeville High School and Post Falls High School students captured the three remaining Best in Category awards:

- “Drywall and Paint: Affecting Growth of Fungal Spores” by Post Falls High School sophomore Kaitlyn Carmack earned Best in Category in Animal, Biomedical, and Microbiological Sciences, a Category Gold award, and several special awards, including the Regeneron Biomedical Science Award (which includes a \$500 cash prize) and a USAID Certificate.
- “Effects of Temperature on Learning” by Grangeville High School junior Tobias Stoner earned Best in Category in Behavioral and Social Sciences, a Category Gold award, and several special awards, including the American Psychological Association Award and third place from the Idaho Academy of Science & Engineering (which includes a \$25 cash prize).
- “Effect of Natural Fertilizers on Drought Stress” by Grangeville High School senior Aliyah Poxleitner earned Best in Category in Earth, Environmental, and Plant Sciences, a Category Gold award, and several special awards, including the Association for Women Geoscientists Award, the Cross Charitable Foundation Environmental Sciences Award (which includes a \$500 cash prize) and the National Geographic That’s Geography – Cultivating Empathy for the Earth Award (which includes a \$100 cash prize).

Judges honored seven more projects with Category Gold awards: “Minimizing the Spread of Invasive Species by Using Multi-Surface Cleaners,” an Animal, Biomedical, and Microbiological Sciences entry by Grangeville High School senior Camden Barger; the Behavior and Social Sciences entry “Does Phone Use During Class Affect Student Retention of Academic Material in School?” by Orofino High School sophomore Nicole Bradford; “Pollution Mitigation,” an Earth, Environmental, and Plant Sciences entry by Grangeville High School senior Bailey Vanderwall; the Earth, Environmental, and Plant Sciences entry “The Effects of Fertilizers on Plant Growth” by Deary Junior-Senior High School junior Delainee Ellsworth; “Deck-to-Bagger Adapter,” an Engineering, Math, and Computer Science entry by Lewiston High School senior Ian Maresca; the Engineering, Math, and Computer Science entry “Filtering out Microplastics from Washing Machine Outflow” by Grangeville High School senior Taryn Godfrey; and “How Spin Rate, Ball Speed, and Launch Angle Affects a Golf Shot’s Distance,” a Physical Sciences entry by Lewiston High School juniors Tyler Granlund and Christian Reed.

In addition, judges awarded Lewiston High School junior Sydney Arellano the Bearden Award for Women in Computer Science for her project “Explore the Parks.” The award, which also includes a \$500 cash prize, is 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.

The STEM Action Center presented 18 other projects with Category Silver awards and an additional 17 special awards from the American Meteorological Society, the ASM Materials Education Foundation, the Genius Olympiad, the Idaho Academy of Science & Engineering, Mu Alpha Theta, NASA, the National Oceanic and Atmospheric Administration, the Office of Naval Research, Ricoh, the Society for In Vitro Biology, the Stockholm International Water Institute, the U.S. Metric Association, and the Yale Science & Engineering Association.

Grangeville High School earned the Top School award. The award is calculated based on total projects and total category awards, including Silver, Gold, Best in Category, and Best in Fair. Science teacher Shaun Bass coached Grangeville High School’s participants, which earned two of the five Best in Category awards and five of the 13 Category Golds. Bass 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 in Boise Feb. 25, and Idaho State University hosted the Eastern Idaho Science and Engineering Fair in Pocatello March 4. The Best in Fair winners from those events will join the top NISEF prizewinners at the international science fair courtesy of the STEM Action Center.

The STEM Action Center is presenting the 2022 Idaho Science and Engineering Fairs in partnership with the NASA Idaho Space Grant Consortium, Idaho Central Credit Union, Idaho Power, Cross Charitable Foundation, Schweitzer Engineering Laboratories, University of Idaho, Lewis-Clark State College, Gonzaga University, Eastern Washington University, and Coeur d’Alene Resort.

Ensuring economic prosperity

According to STEM Action Center executive director Dr. Kaitlin Maguire, competitions like these are important to the state’s future, offering 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 that Idaho students present each year never ceases to amaze me,” Dr. Maguire said. “The experience students gained by participating — by thinking creatively about real-world problems, seeking solutions, and explaining their findings succinctly — will prove invaluable when they enter the workforce.”

She said STEM jobs in Idaho are projected to grow 15.4 percent by 2030, outpacing the national average of STEM job growth at 10 percent.

“STEM jobs are broad and include careers in healthcare, engineering, software development, and agriculture, and STEM jobs pay nearly twice as much as non-STEM jobs,” Dr. Maguire said. “Moreover, STEM education builds knowledge and skills that are important to the future of Idaho, because it help students develop creative thinking, problem solving, innovation, and collaboration skills. These are skills that Idaho employers want and are needed to solve tomorrow’s problems.”

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 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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