Bright Spot 2023

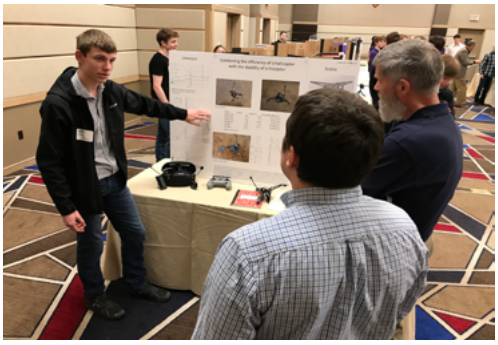
Career Connected Education for Tomorrow's Workforce in Idaho

IDAHO STEM ACTION CENTER

Idaho Student Researchers Shine

in agriculture, technology, physical sciences, and behavioral sciences

Northern, Western, and Eastern Idaho Science and Engineering Fairs



IDAHO STEM ACTION CENTER AND PARTNERS HOST IDAHO SCIENCE & ENGINEERING FAIRS

Each spring, Idaho STEM Action Center and its partners proudly host 3 regional high school science and engineering fairs for grades 9-12 across Idaho. Students present their findings at EISEF (Eastern Idaho Science and Engineering Fair) in partnership with Idaho National Laboratory (INL), WISEF (Western Idaho Science and Engineering Fair) in partnership with Micron, or NISEF (Northern Idaho Science and Engineering Fair).

STEM professionals from Idaho STEM Action Center, industry and university partners volunteered as judges, doing their part to inspire the next generation. Employees and company leaders from Schweitzer Engineering Laboratories, Simplot, T-Mobile, Boise State University, Idaho State University, University of Idaho, Lewis-Clark State College, North Idaho College, USGS and many others gave their time to support these young scientists as they move one step closer to choosing their career futures.

TOP SCHOOLS RECOGNIZED AT REGIONAL FAIRS

- **Grangeville High School**
- **Idaho Virtual Academy, Meridian**
- **American Heritage Charter School, Idaho Falls**

During the 2021-2022 school year 544 Idaho high school students participated in a local and/or regional science fair. The 2022 Idaho regional science fairs showcased 126 projects presented by 180 students from 19 schools.

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, to meet and learn with other motivated students in their area, and to engage with STEM mentors and professionals.

IDAHO STEM ACTION CENTER

STEM is about engaging with the world through creativity, collaboration, and innovation.

And STEM skills give Idahoans a competitive edge in the workplace; preparing them for high-paying, high-demand careers in agriculture, healthcare, computer science, and more.

STEM...Helping build a prosperous Idaho!

LOOKING INTO THE FUTURE IN IDAHO AND BEYOND

This year's student innovation was in top form with these Best-in-Fair award-winning, Idaho-relevant projects:

Lewiston High School senior Jesse St. Onge investigated the use of electromagnets to apply the concept of reduced frictional braking to vehicles such as bikes or automobiles, reducing wear and eliminating the need for hydraulic routing.

Moscow High School junior Caden Perry researched how to combine the efficiency of a helicopter with the stability of a quadcopter. Propeller configurations were developed, and flight tests were conducted using project drones to test efficiency and flight times.

Boise High School junior Wency Suo completed a 10-month long study focused on identifying SARS-CoV2 inhibitors with the goal to advance the knowledge and understanding of potential Covid-19 treatment strategies. Suo constructed algorithms to generate classifications of over 3000 molecules and successfully narrowed the list to 5-10 potential molecules to inform the most promising for drug design.

Timberline High School junior Luke Bousfield and senior James Liu investigated novel machine learning algorithms to efficiently approximate the Shortest Vector Problem (SVP) in post-quantum cryptography. Building on the work of previous studies using genetic algorithms, their results provide evidence that genetic algorithms can solve the SVP on high-dimension lattices and that cryptosystems built on the hardness of the SVP may not be as secure in practice as previously thought.

Hagerman High School freshmen Saree Hillstead and Danica Knapp investigated the relationship between an individual being a supertaster and their score on an autism spectrum test. The study showed that there is a correlation between an individual's score on an autism spectrum test and being a supertaster.

Hillcrest High School sophomore Brecken Allegood and junior Nathan Elison tested water quality from various sources – spring water from a creek in southeast Idaho, water from the Snake River, well water drawn from the Snake River aquifer, bottled water, and glacier lake water from Alaska – to compare the purity of glacial water with other water sources without purification.

The Best in Fair winning teams and their mentors represented Idaho at the Regeneron International Science and Engineering Fair held in Atlanta in May 2022. Luke Bousfield and James Liu won a second-place cybersecurity award of $1,500 from the National Security Agency for their project.

Our Partners

INL Idaho National Laboratory · Micron · IDAHO POWER · POWER ENGINEERS · IDAHO COMMUNITY FOUNDATION · clearwater · AT&T

STEM IS EVERYWHERE AND FOR EVERYONE!

GET INVOLVED TODAY!

Your participation is essential for Idaho's success! There are many ways for you to engage with STEM education. Mentor. Volunteer. Donate. Partner. Help us build a path to prosperity for all Idahoans.

Learn more

To learn more about the STEM Action Center's strategies, success stories, and positive impacts in your community, email: admin@stem.idaho.gov or visit stem.idaho.gov.

IDAHO STEM ACTION CENTER

802 W. Bannock St., Suite 900
Boise, Idaho 83702
Phone: (208) 332-1729

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