

# WSSF Quarter Note

## From the Director's Desk

Happy Holidays 2017!

Perhaps this preview of some special awards presented at the Wyoming State Science Fair will be a motivation as you prepare your projects for local and regional fair competitions. The awards highlighted in this newsletter are provided because the Wyoming State Science Fair is an Intel ISEF (International Science and Engineering Fair) Affiliated Fair. These awards are sponsored by national organizations and often have very specific qualifications (many are for 9th-12th grade students). Other awards (including those from University of Wyoming and local organizations) will be announced on Facebook in the coming weeks. Please read the award descriptions carefully, and learn more about the sponsoring organizations who support your research. They could be your potential future employers.

We had an overwhelming response to the Logo Design Contest this year! I was happily inundated with over 180 entries. These have been narrowed down to the 33 designs posted on Wyoming Science-Fair Facebook. Now it is time for you to help us select the 3 that will be featured on the 2018 Wyoming State Science Fair T-shirt and buttons. Please vote for your favorite 3 designs. Vote by 'liking' 3 images in the 2018 WSSF Logo Contest Entries album. Every vote counts, so please encourage your friends and family to vote too! Voting ends December 20, 2017.



~ Erin Stoesz, Wyoming State Science Fair Director

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### Wyoming State Science Fair Paperwork Deadlines

- \* **February 7, 2018** — ISEF Paperwork and WSSF Registration Forms Due
- \* **February 19, 2018** — Notification of Student Acceptance to Compete in the Wyoming State Science Fair
- \* **March 4-6, 2018** — Wyoming State Science Fair

Most people say that it is the intellect which makes a great scientist. They are wrong: it is character.

~ Albert Einstein

## Intel ISEF Affiliated Fair Special Awards

### Society for In Vitro Biology Award



The Society for In Vitro Biology provides a certificate award to the most outstanding 11th grade student whose research project is in the areas of plant or animal in vitro biology or tissue culture. In addition, the award recipient will receive publicity in the society's newsletter and might be invited to submit an abstract of their work at the society's annual meeting.

Learn more about the Society at <http://www.sivb.org>

### U.S. Metric Association Award



The U.S. Metric Association recognizes a student in any division or category whose project involves quantitative measures and correctly uses units of the SI metric system for those measures. Winning projects should use a variety of metric units for different kinds of measures, and use of those measures should be integrally important in the student research. The subject of the winning project should not be the SI system itself.

### Yale Science & Engineering Association Award



The Yale Science & Engineering Association, Inc. provides one certificate and pewter medallion to the most outstanding 11th grade project (10th or 12 grade projects may be eligible in extraordinary cases) in Computer Science, Engineering, Physics or Chemistry.

### Genius (Global Environmental Issues) Olympiad Award



**Two** projects done by students in grades 8-12 will invited to apply to compete in the 2016 Genius Olympiad competition. The Genius Olympiad is an international high school project competition focusing on environmental issues. This international event will be held at SUNY Oswego June 11-16th, 2018. Eligible projects must fit within one of the following disciplines: ecology and biodiversity, environmental quality, resources and energy, human ecology,

### Mu Alpha Theta Certificate



Mu Alpha Theta, the National High School and Two-Year College Mathematics Honor Society, provides a certificate of recognition to a senior division (9th-12th grade) project (individual or team) that demonstrates the most challenging, original, thorough and creative investigation of a problem involving mathematics accessible to a high school student(s). Projects in any category are eligible. Components of the investigation may include, but are not limited to, mathematical proof, mathematical modeling, statistical analysis, visualization, simulation, and approximation. Judging will be based on creative ability, use of mathematics, scientific thought, thoroughness, skill, clarity, and teamwork (if applicable).

## American Meteorological Society Certificate



The American Meteorological Society recognizes 9th, 10th, 11th or 12th grade students who have done creative research in the areas of atmospheric and related oceanic and hydrologic sciences. Award recipients receive a certificate of achievement and recognition in the December issue of the *Bulletin of the American Meteorological Society (BAMS)*.

## NASA Earth System Science Certificate Award



NASA recognizes a project that best demonstrates insight into Earth's interconnected systems (atmosphere, lithosphere, hydrosphere, cryosphere, and biosphere). The project should incorporate studies of the different components of Earth systems, their interactions and their evolution over time. Projects in both the Junior and Senior divisions are eligible.

## NOAA's "Taking the Pulse of the Planet" Award



The National Oceanic and Atmospheric Administration recognizes student research that emphasizes NOAA-related science by presenting a certificate and medallion to a project by either middle or high school student(s). The winning research project will emphasize NOAA's mission of **Science, Service and Stewardship: "To understand and predict changes in climate, weather, oceans and coasts, To share that knowledge and information with others, and To conserve and manage coastal and marine ecosystems and resources."** NOAA is a trusted source of accurate information in four areas of global importance: ecosystems, climate, weather & water, and commerce & transportation. Projects in all Junior and Senior division categories are eligible.

## Ricoh Sustainable Development Certificate Award



Ricoh Americas Corporation is a major sponsor of the Intel ISEF. They are offering a certificate award to a project that has principles and technical innovations that offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses. The winning project must also protect the environment and conserve resources, emphasize pollution prevention, and promote conservation of biodiversity.

Learn more about Ricoh at <https://www.ricoh-usa.com/en>

## Intel Excellence in Computer Science Award



The Intel Company sponsors a \$200 + certificate award to encourage participation in computer science. Computer science is one of the fastest growing fields today, and it is an important source of innovation for the 21st century. This award goes to the top first place winner of the Senior Division (Grades 9-12) Computer Science Category.

## American Psychological Association Education Directorate Certificate



The American Psychological Association Education Directorate recognizes a student or team of students for outstanding research in psychological science under the category of behavioral and social sciences or any category relating to psychology (e.g., animal sciences, biochemistry, computer science, environmental science, mathematical science, medicine and health). Projects are judged based on creative ability, scientific thought, thoroughness, skill, and clarity.

The scientist is not a person who gives the right answers, he's one who asks the right questions. ~Claude Lévi-Strauss, *Le Cru et le cuit*, 1964

## More Intel ISEF Affiliated Fair Special Awards

### Association for Women Geoscientists Certificate



The Association for Women Geoscientists recognizes a female student whose project exemplifies high standards of innovativeness and scientific excellence in the geosciences. The project that receives recognition should increase public awareness of the geosciences, illustrate the interdisciplinary nature of the geosciences, or promote the sensitivity to the earth as a global system.

### ASU Walton Sustainability Solutions Initiative Award



The ASU Rob and Melani Walton Sustainability Solutions Initiative recognizes 9th, 10th, 11th, or 12th grade students who seek innovative solutions to humanity's most challenging problems. Students who exhibit their research in any category are eligible, but they should convey intent in their research to solve a complex problem that involves social justice, environmental and economic prosperity. The winner will receive a certificate and the opportunity to enter competition for a \$500 Grand Prize award.

See who won some of these awards at the 2017 Wyoming State Science Fair!

<http://www.uwyo.edu/sciencefair/2017wssfawardwinners.html>

## Wyoming State Science Fair Categories for 2017-2018

- 1) Animal & Plant Sciences (may be split depending on space availability)
- 2) Behavioral & Social Sciences
- 3) Biomedical & Health Sciences/Biomedical Engineering/Translational Medical Sciences
- 4) Chemistry/Energy: Chemical
- 5) Biochemistry/Cellular & Molecular Biology/Computational Biology & Bioinformatics
- 6) Earth & Environmental Sciences/Environmental Engineering
- 7) Engineering Mechanics/Materials Science/Energy: Physical
- 8) Mathematics
- 9) Microbiology
- 10) Physics & Astronomy
- 11) Robotics & Intelligent Machines/Embedded Systems/Systems Software

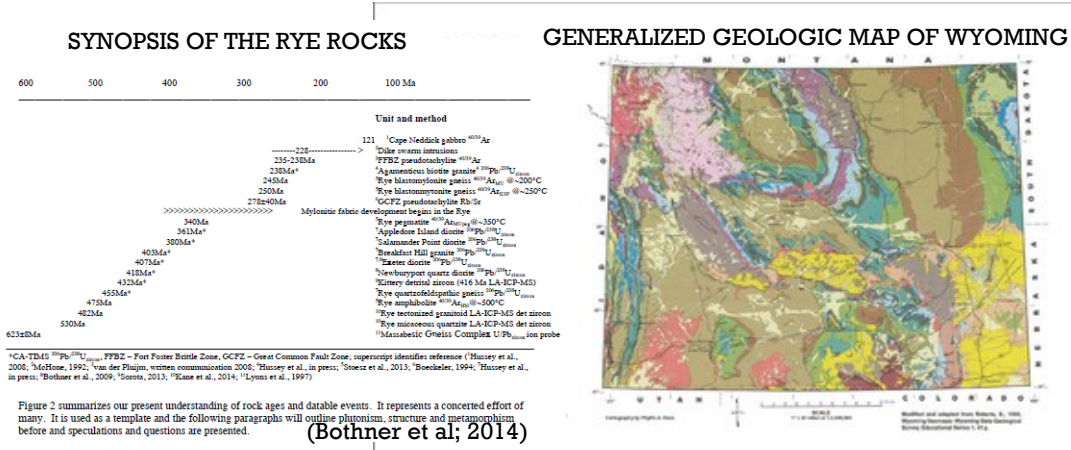
If you're not part of the solution, you're part of the precipitate. ~Henry J. Tillman

## Reflections: What to Do With All The Data?

Many of you are probably at the stage in your research where you have mountains of raw data – tables of numbers, samples, photographs, observations written in notebook, etc. Congratulations! Now, the trick is to figure out how to make sense of what this data might mean. Understandably, this ‘data mountain’ can be overwhelming or exhilarating depending on your perspective. No doubt every researcher has a different way to tackle this, and we’ll see if I can get others to share their perspectives and advice in other newsletters. For now, I’ll share two pieces of advice that have stuck with me:

- 1) Let the data tell the story! Approach your data with an open mind and try to be objective. It is very easy to look at your data with a bias toward ‘supporting’ your hypothesis, but instead put yourself in a mental position of deciphering and conveying the information in the data. In a way, you are telling the scientific story revealed through the data. Remember, it is okay if your data doesn’t support your hypothesis, but instead it shows something else that is interesting or unexpected.
- 2) With the advice and mentoring of your teachers/adults, begin organizing your data in graphs or on maps. Think critically about what kinds of graphs or maps might show you interesting/relevant trends or spatial patterns. After you observe patterns and trends, think deeply about what they are showing and how you can interpret them.

~Erin Stoesz,



Science Friday is more than a radio show! They have educational activities too!

<https://www.sciencefriday.com/>