

**Results of the 2007 Alaska Science and Engineering Fair
March 9-11, Anchorage, Alaska**

The following are the results of the 52nd Annual Alaska Science & Engineering Fair as announced at the Awards Ceremony.

Keynote Address: Dr. Lillian Alessa - UAA Professor of Biology

Military Awards

U. S. Army Awards

These projects were judged and will be presented by SSG Brodie Ford and SSG Justin Crotts.

- Harpreet Sangha, "Mice selected for excessive nest building"
- Elizabeth Rohloff, "Surface Disinfectants of Dental Offices"
- Kerstin Cullin, , "Feasibility of Wind Generation in Thomson Pass"
- Alec Jemison, "Waste 2 Water"
- Elise Sorum, "Safe Harbor for the World"

Naval Science Awards

The Office of Naval Research sponsors scientific research for the US Navy and Marine Corps. ONR has a long history of sponsoring science that changes the world, from past discoveries like the magnetic core memory that is the basis of every computer, to GPS in the '80s, and to the smart robots that searched the wreckage of the World Trade Center. Each student will receive a gift certificate of \$75 and will be presented to them at their school.

(results unavailable)

U. S. Air Force Awards

These projects were judged by special judges. The awardees are receiving a padfolio organizer, usb flash drive, pda and pen and pencil set. These also will be presented later at the student's schools.

(results unavailable)

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Awards from Local Organizations

**National Weather Service and The American Meteorological Society:
Anchorage Chapter**

These projects were judged and will be presented by Robin Radlein.

Elementary:

- 1st: Collin Dieckgraeff, "Snow Water Equivalent in the Furrow and Potter Creek Watersheds"
- 2nd: Erik Oder, "Landslide!"
- 3rd: Corry McKeon, "How to Stay Warm Outside - Mother Nature's Insulation"

Middle School:

- 1st: Kelsey Meacham, "Space Weather: Alaska Forecast"
- 2nd: Victoria Sims (need info on spelling and project)
- 3rd: Timothy Springbok (need info on spelling and project)

Senior High:

- 1st: Elise Sorum, "Safe Harbor for the World"
- 2nd: Alec Jemison, "Waste 2 Water"
- 3rd: Kerstin Cullin, , "Feasibility of Wind Generation in Thomson Pass"

American Society for Microbiology: Alaska Branch

Special judges from the American Society for Microbiology-Alaska Branch judged these projects. Unfortunately, they were unable to be here today to present their awards and have asked us to present them on their behalf. The winners are receiving a certificate and a cash prize of \$50. Their winners are:

- Elementary School
 - Tyler Winn, "Disgusting Moldy Bread"
 - Dylan Lance, "Are heavy duty cleaners really worth it?"
- Middle School:
 - Zachary Mitchell, "Which soap works best?"
- High School
 - A team project of Sarah Reagin and Krystin Silas, "Spruce up your Bacteria"

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Audubon Alaska

These projects were judged and presented by Rich Capitan. Audubon Alaska presents an award to a student who has shown interest and dedication to study of an avian theme, animal behavior, conservation, and/or natural systems. Preference is given to entries with an avian focus. An award of binoculars goes to:

- Keegan Crowley, "Food Habits of Sitka Black-tail Deer"

Aurora Borealis Branch of the Commissioned Corps (USPHS)

These projects were judged by officers of the Commissioned Corps and they have asked us to present \$50 to each of the following Students:

- Senior High: Harpreet Sangha, "Mice selected for excessive nest building"
- Middle School: Morgan Kueter, "Flammability of Infant Pajamas: Is Your Baby Safe?"
- Middle School: Grant Magdanz, "Classification of Native Fats"

Chugach Gem and Mineral Society

Special Judges from the Chugach Gem and Mineral Society judged for these awards. They will be presented at a meeting on March 22. First place awards receive \$200 each, Second place awards receive \$50, and Third place awards receive \$25. All awards will receive a family membership to the CGMS and a club T-shirt. Winners:

- Elementary School:
 - 1st place: Emily Gordon, "How the Chugach Mountains formed"
 - 2nd place: Cory Rith, "Minerals A to Z"
 - 3rd place: Cierra Cowin, "Landslide Tsunami"
 - Honorable Mention: Peter Seeganna, "Meteors and Craters"
- High School
 - 2nd Place: Josiah Hendrickson, "Circle mining district soil particle density and air void analysis"

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Institute Of Electrical & Electronic Engineers (IEEE)

These projects were judged and will be presented by Doug Campbell.

- Elementary School:
 - 1st place: Zoey Flynn, "How to make a simple motor"
 - 2nd place: Garrett Fisher, "The Electric Motor and Different Coil shapes"
 - 3rd place Kaylee Zajac, "Solar Cell"
 - Young Electrical Engineer of the Day: Hahna Wood, "Which path will light the bulb?"
- Middle School
 - 1st place: Robert Spiller, "Spinning Electromagnetic Motor"
 - 2nd place, none
 - 3rd place Cecil Haering, "The effect of temperature and salinity on the conductivity of water"
- High School
 - 1st place: Sasha Siy, "ALFRED II"
 - 2nd place: Kerstin Cullen, "Feasibility of Wind Generation in Thomson Pass"

Society of American Military Engineers (SAME)

These awards will be presented by Kathy Gardner.

- Elementary School
 - 1st place: Erik Oder, "Landslide!"
 - 2nd place: Corry Mckeon, "How to stay warm outside-Mother Nature's Insulation"
 - 3rd place: Jennifer Goertz, "Do setback thermostats save energy?"
- Middle School
 - 1st place: Brea Harris, "What material makes the most resonant soundboard?"
 - 2nd place: Douglas Watts, "Mother Nature filtration"
 - 3rd place: Gregory Jaksec, Jr., "Wings and their affect on flight"
- High School
 - 1st place: Alexander (Sasha) Siy, "ALFRED II"
 - 2nd place: Elise Sorum, "Safe Harbor for the World"
 - 3rd place: Kerstin Cullen, "Feasibility of Wind Generation in Thomson Pass"

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Alaska Chapter of the Society for Technical Communication

These awards will be presented by Alissa Oder.

- Elementary School Grades 4-6 Abstracts
 - 1st: Mark Boone, "Wings of Madness"
 - 2nd: Sam Erickson and Ben Erickson, "Do Carrots Like Compost?"
 - 3rd: James Meacham, "Wild Wings"
 - Honorable Mention: Alec Parry, "Caffeinated Test Taking"
 - Honorable Mention: Rheannon Williams, "Oobleck"
- Middle School Abstracts
 - 1st: Kelsey Meacham, "Space Weather: Alaska Forecast"
 - 2nd: Grant Magdanz, "Classification of Native Fats"
 - 3rd: Matt Heiken, "Conservational Concrete Construction"
 - Honorable Mention: Robert Spiller, "Spinning Electromagnetic Motor"
 - Honorable Mention: Morgan Kueter, "Flammability of Infant Pajamas: Is Your Baby Safe?"
- Senior High Abstracts
 - 1st: Harpreet Sangha, "Mice Selected for Excessive Nest Building"
 - 2nd: Willaby Shuster, "Bacterial Batteries with Arctic Mud"
 - 3rd: Jonathan Samorajski, "A Numerical Formulation of the Dirac Matrices and Their Chiral Projections in an Arbitrary Dimension Using Mathematica"
 - Honorable Mention: Kerstin Cullin, , "Feasibility of Wind Generation in Thomson Pass"
 - Honorable Mention: Elise Sorum, "Safe Harbor for the World"
 - Honorable Mention: Sasha Siy, "ALFRED II"
- Middle School Displays
 - 1st: Grant Magdanz, "Classification of Native Fats"
 - 2nd: McKinley Wallace, ""The Effects of Urbanization on Chester Creek"
 - 3rd: Kelsey Meacham, "Space Weather, Alaska Forecast"
 - Honorable Mention: Douglas Watts, "Mother Nature's Filtration"

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Society for Technical Communication (Continued.)

- Senior High Displays
 - 1st: Alec Jemison, "Waste 2 Water"
 - 2nd: Schuyler Everett, "Goin' Bald"
 - 3rd: Willaby Shuster, "Bacterial Batteries with Arctic Mud"
 - Honorable Mention: Elise Sorum, "Safe Harbor for the World"
 - Honorable Mention: Josiah Hendrickson, "Circle Mining District Soil Particle Density & Air Void Analysis"

The Imaginarium

Special judges from The Imaginarium chose these winners and asked us to present their awards. These are awarded to Elementary level participants, whose project best represents a hands-on, visually appealing experiment. The winners are receiving a certificate, 1 year student membership to the Imaginarium, a gift certificate to the Imaginarium Store and a baseball hat.

- 1st Place - Garret Fisher, "The electric Motor and different coil shapes"
- 2nd Place - Michael Timmons, "Compression vs. Tensile strength"
- 3rd Place - Connor Moma, "Alternative Energy: Building a Wind Turbine"

Alaska Fly Fishers

Special judges from the Alaska Fly Fishers chose these winners. These winners were invited to attend the Alaska Fly Fishers monthly meeting where they will be presented with a plaque and \$100.00 Savings Bond. We would like to recognize these students at this time. The winners were:

- Elementary School: Collin Dieckgraeff, "Snow Water Equivalent in the Furrow and Potter Creek Watersheds"
- Middle School: McKinley Wallace, "The Effects of Urbanization on Chester Creek"
- High School: Alec Jemison, "Waste 2 Water"

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Alaska Geological Society

Special judges from the Alaska Geological Society chose these winners from Earth, Space or Environmental Science Categories that used the scientific method. These winners were invited to attend the Alaska Geological Society's luncheon where they will receive formal certificates and \$25 Borders Gift Cards. We would like to recognize these students at this time.

The winners were:

- Elementary School:
 - Dawson Foster, "Can Volcanic Ash be Useful?"
 - Alexandria Opinsky, "Tsunami"
 - Erik Oder, "Landslide!"
 - Cierra Cowin, "Landslide Tsunami"
 - Mason Cocoran, "Whose nose is it?"
 - and Kali McCafferty, "Earth's Magnetic Pulse and the Effects on True North"
- Middle School:
 - Kelsey Meacham, "Space Weather: Alaska Forecast"
 - David Mruk, "Weathering and Erosion"
- High School:
 - Josiah Hendrickson, "Circle Mining District Soil Particle Density & Air Void Analysis"

Blockbuster Video

Blockbuster Video kindly donated 4 \$5 gift cards for free video or DVD rentals. These cards were used for our door prize drawing.

VF Grace

VF Grace donated a multitude of prizes for our door prize drawing.

Pioneer Marketing and Management

The winners of this prize were judged best in their categories of Mathematics and Chemistry. Winners:

- For Chemistry: Drew Lindow, "Sugar fuel"
- For Mathematics: Jonathan Samorajski, "A Numerical Formulation of the Dirac Matrices and Their Chiral Projections in an Arbitrary Dimension Using Mathematica"

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Awards from National Organizations

American Psychological Association (APA) and Teachers of Psychology in Secondary Schools (TOPSS)

The APA Education Directorate and Teachers of Psychology in Secondary Schools are pleased to award one certificate recognizing outstanding research in psychology under the category of behavioral and social sciences. Recognition of the student's achievement may be publicized via various APA publications. The winner:

- Christina Morrisett, "The Dangers of Cordova's Stop Signs"

ASM International Foundation

The ASM Materials Education Foundation is pleased to present one award, consisting of a medallion and a certificate, recognizing the winner of the best use of new materials. We are presenting one preliminary certificate now; a formal certificate and the medallion will be mailed to the winner's home. The winner is:

- Alec Jemison, "Waste 2 Water"

Association of Women Geoscientists

The Association for Women Geoscientists (AWG) is pleased to provide an Award Certificate to female students whose projects, in the opinion of the judges, exemplify high standards of innovativeness and scientific excellence in the geosciences. Special consideration was to be given to projects that increase the public awareness of the geosciences, illustrate the interdisciplinary nature of the geosciences, or promote the sensitivity to the earth as a global system. The winner is:

- Alexandria Opinsky, "Tsunami"

Herbert Hoover-Young Engineer Award

The Herbert Hoover Presidential Library Association is pleased to provide the Herbert Hoover Young Engineer Award to the outstanding engineering project. The student should have a good grasp of engineering fundamentals, demonstrate competence in one or more engineering disciplines and show good communication skills by effectively explaining his/her project. The winner of this project is receiving a certificate and a medallion. The winner is:

- Alexander (Sasha) Siy, "ALFRED II"

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Intel Excellence in Computer Science

Intel is proud to announce the continuation of the Intel Excellence in Computer Science Award in the amount of \$200.00. Intel supports the Science Fair because they recognize the importance of developing the talents of our most promising young minds. In particular, the company hopes to encourage increased participation in computer science, one of today's fastest growing fields and an important source of innovation for the 21st century. The winner is the top first place winner of the computer science category in grades 9 through 12. There were no projects that met the judging criteria.

International Society for Optical Engineering

The International Society for Optical Engineering is a nonprofit organization dedicated to advancing scientific research and engineering applications of optical, photonic, imaging, and optoelectronic technologies through its meetings, educational programs, publications and exhibitions. This award was judged as the best project that applied optics or photonic principles. The winner of this award receives a certificate and will be entered in a drawing for several prizes in late July. The winner is:

- Willis Dalton, "Auto focus or manual focus"

Mu Alpha Theta

Mu Alpha Theta, the National High School and Two-Year College Mathematics Honor Society, wished to provide one certificate to an individual or group project, from grades 9-12, demonstrating the most challenging, thorough, and creative investigation of a problem involving modern mathematics. This project does not necessarily have to be entered in the Mathematics category. The winner is:

- Jonathan Samarajski, "A Numerical Formulation of the Dirac Matrices and Their Chiral Projections in an Arbitrary Dimension Using Mathematica"

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National Society of Professional Engineers

The National Society of Professional Engineers and Professional Engineers in Industry is pleased to provide one award, consisting of a certificate, and "NSPE Innovative Engineering Award" lapel pin and a subscription to Engineering times, to the most outstanding engineering project grades 7 - 12. The winner is:

- Elise Sorum "Safe Harbor for the World"

National Oceanic and Atmospheric Administration-NOAA

The National Oceanic and Atmospheric Administration (NOAA) is happy to provide one award, consisting of a certificate, to one individual whose research emphasizes NOAA's mission to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. The winner is:

- Kelly Walker, "Current Currents"

Ricoh Corporation

The Ricoh Corporation would like to provide students an opportunity to be recognized for their outstanding efforts in addressing issues of environmental responsibility and sustainable development in their science fair projects. The Ricoh Sustainable Development Award goes to the one individual or team entry, selected from among all the general award categories whose principles and technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses. The winner will receive a certificate, and be entered into a drawing for a digital camera. The winner is:

- Alec Pankow, "The Power of Wind"

Society for In Vitro Biology

The Society for In Vitro Biology provides 1 award given to the most outstanding 11th grade student exhibiting in the areas of plant or animal in vitro biology or tissue culture. They will receive a formal certificate and publicity included in the society's newsletter on their website. The winner is:

- Nathan Floyd, "Yeast Production"

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U. S. Metric Association

The U. S. Metric Association is providing one certificate to be presented to the student in grades 9-12 whose project involves a significant amount of quantitative measurement and which best uses the SI (International System) metric system for those measurements. The winner is:

- Kyle Irving, "Bio diesel"

Water Environment Federation: U. S. Stockholm Junior Water Prize

The Stockholm Junior Water Prize is the most prestigious award for youth projects in water environment science. This project was judged the best water-related science project by a student in grades 9-12. The winner will receive a certificate and may advance to the next round of judging by the Water Environment Federation. The winner is:

- Eise Sorum, "Safe Harbor for the World"

Yale Science & Engineering Association, Inc.

The Yale Science & Engineering Association, Inc (YSEA) wishes to provide one certificate to the most outstanding 11th grade student exhibiting in the areas of Computer Science, Engineering, Physics or Chemistry. A formal certificate and a medallion will be mailed to the winner at a later time. The winner is:

- Alexander (Sasha) Siy, "ALFRED II"

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Category Winners

Middle School Category Winners

These students were chosen by the Alaska State Science and Engineering Fair judges as the best projects in their respective categories. Each winner receives \$50.

Also: Discovery Young Scientists

The Discovery Young Scientist awards are presented to our Middle School Category Winners. They will receive a certificate, a lapel pin and a booklet that explains how to continue on in the competition.

Animal Science	Taylor Schaeffer, "Do different colored lights attract fruit flies?"
Behavioral & Social Sciences	Christina Morrisett, "The Dangers of Cordova's Stop Signs"
BioChemistry	Eriez Hjellen, "Nut Energy"
Cellular and Molecular Biology	Mark Garcia, "My DNA Smoothie"
Chemistry	Grant Magdanz, "Fats in Native Foods"
Earth & Planetary Science	Laura Felthouser, "What are they?"
Engineering: Materials, Bioengineering, Electrical and Mechanical	David Carlson, "Conductors vs. Insulators"
Engineering: Energy and Transportation	Kyle Milke, "Saving energy by lowering thermostat: Truth or Fiction"
Environmental Management & Sciences	Brent Carey, "Recycling to extend the life of the landfill"
Mathematical Sciences	Oliver Petraitis & Brandon Robbins, "The phi ratio in rock music"
Medicine & Health Sciences	Hayley Rodgers, "Dissolving rate of pain plus"
Microbiology	Xavier Cho, "Antibacterial Soaps"
Physics & Astronomy	Chris Kim, "Truth About Efficiency as an Archer"
Plant Sciences	Logan Nissenson, "Vitamin C is berry good for you"

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High School Category Winners

These students were chosen by the Alaska State Science and Engineering Fair judges as the best projects in their respective categories. Each winner receives \$100.

Animal Science	Schuyler Everett, "Goin' Bald"
BioChemistry	Willaby Shuster, "Bacterial Batteries"
Chemistry	Drew Lindow, "Sugar fuel"
Earth & Planetary Science	Kelly Walker, "Current Currents"
Engineering: Materials, Bioengineering, Electrical and Mechanical	Alexander (Sasha) Siy, "ALFRED II"
Engineering: Energy and Transportation	Kerstin Cullen, "Feasibility of Wind Generation in Thomson Pass"
Environmental Management & Sciences	Alec Jemison, "Waste 2 Water"
Mathematical Sciences	Jonathan Samorajski, "A Numerical Formulation of the Dirac Matrices and Their Chiral Projections in an Arbitrary Dimension Using Mathematica"
Medicine & Health Sciences	Harpreet Sangha, "Mice selected for excessive nest building"
Microbiology	Elizabeth Rohloff, "Surface Disinfectants of Dental Offices"
Physics & Astronomy	Katiya Erickson, "How low can the go?"
Plant Sciences	Elizabeth Carmichael, "How light color affects plant growth"

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School Trophies

Middle School

The trophy is awarded to Central Middle School.

High School

The trophy is awarded to Valdez High School.

University of Alaska College Savings Plan

The recipient of this award is receiving \$1500 savings account to be used at virtually any university of their choice. The winner is:

- Christina Morrisett, "The Dangers of Cordova's Stop Signs"

The Most Outstanding Science Teacher Awards

These teachers are being recognized as the most outstanding science teachers participating in our science fair. The winners are:

- For Elementary:
 - Judy Staveley from Holy Rosary Academy will be receiving a cash prize of \$50.00 and an e-mission or In-House Mission from the Challenger Learning Center, Alaska
- For Middle School:
 - Janet Clarke from Gruening Middle School will be receiving a cash prize of \$100.00 and an e-mission or In-House Mission from the Challenger Learning Center, Alaska
- For High School:
 - Robbie Everett from Kotzebue High School is receiving a cash prize of \$100.00 and an e-mission or In-House Mission from the Challenger Learning Center, Alaska

ASEF Finalists

These winners will be going on to the Intel International Science Fair in Albuquerque, New Mexico.

- This student is going as a student observer, Everett Schuyler.
- The 2nd place finalist is Alec Jemison, "Waste 2 Water"
- The 1st place finalist is Harpreet Sangha, "Mice selected for excessive nest building"