

## 2016 Intel NWSE Middle School Awards

April 23, 2016 the 33rd Annual Intel Northwest Science Expo was held at Liberty High School in Hillsboro. 402 students were registered for the event and 256 awards were given out. Jimmy Plumleigh of Bend Science Station and Anushka Naiknaware of Summa Stoller were our Best of Fair Winners.

### Best of Awards

Special Award	Award Sponsor	Title	Student List	Organization	Adult Sponsor
Middle School Best of Fair	Kumon of Hillsboro and Cedar Mill	Cystic Fibrosis Diagnosis Through Light Blue Towel Bleaching	Jimmy Plumleigh	Bend Science Station	Danny Martin
Middle School Best of Fair	Kumon of Hillsboro and Cedar Mill	Chitosan and Carbon Nanoparticle based Biocompatible Sensor for Wound Management	Anushka Naiknaware	Summa Stoller	Pam Svenson
Best of Category in Animal Science	Glen Teague Memorial	Effects of Temperature on Jumping Performance of Invasive American Bullfrogs ( <i>Lithobates catesbiana</i> ) at Different Developmental Stages	Raven Dow-Hygelund	Bend Science Station	Danny Martin
Best of Category in Behavioral and Social Science	Portland Alcohol Research Center at OHSU & VAMC	Sequential vs Simultaneous	Emma Baughman	Rachel Carson Environmental Middle School	Rebecca Hall
Best of Category in Chemistry	The Bilow Group - Lake Oswego, OR	Which species of angiosperm tree leaves contain the most extractable cellulose, using laboratory sodium hydroxide	Medha Kumar	Summa Meadow	Kynah Atwood

		pulping techniques?			
Best of Category in Consumer Product Testing	Eclipse Technologies	Scoby's Sweet Tooth	Harper Smith	Bend Science Station	Danny Martin
Best of Category in Earth Science	Glen Teague Memorial	Aerosol Injections - Even More Expensive than Scientists Thought	Ryan Westcott, Katie Reveno	Oregon Episcopal Middle School	Ryan Holland
Best of Category in Energy	Dr. Larry Sherman	Creating a device that improves the overall efficiency of a solar panel.	Isabella Grundseth	Summa Whitford	Carolee Dearborn
Best of Category in Engineering	Ralph M Cohen Consultancy	How can parking sensors at the front of a car be made more cheap as and assessible in different situations?	Catherine Lee	Summa Cedar	Winter Chung
Best of Category in Engineering: Mechanical and Materials	Ralph M Cohen Consultancy	Chitosan and Carbon Nanoparticle based Biocompatible Sensor for Wound Management	Anushka Naiknaware	Summa Stoller	Pam Svenson
Best of Category in Environmental Science	Tualatin River Watershed Council	Analysis of Correlation Patterns Among Active Fires, Ozone, Acid Rain, and Other Forms of Pollution Using Principal	Rupert Li	Summa Cedar	Winter Chung

		Component Analysis			
Best of Category in Mathematics and Computer Science	Kumon of Hillsboro and Cedar Mill	Using Stylometry to Authenticate Students' Writing	Arushi Mantri	Summa Stoller	Pam Svenson
Best of Category in Medicine and Health	Oregon Health and Sciences University	Cystic Fibrosis Diagnosis Through Light Blue Towel Bleaching	Jimmy Plumleigh	Bend Science Station	Danny Martin
Best of Category in Microbiology	The Fitzpatrick Company	Organic vs Nonorganic: Antimicrobial Resistance Found in Poultry	Natalie Wang	ACCESS Academy	Alfonso Garcia Arriola
Best of Category in Physics: Electromagnetic	Claude and Florence Zeller	What are the optimal settings for a Kelvin Generator?	Adam Jones	Meadow Park Middle School	Kynah Atwood
Best of Category in Physics: Mechanical	Claude and Florence Zeller	How does the Density of One Material Affect how much Sound has been Insulated or Diffracted?	Eric Tran	Summa Whitford	Carolee Dearborn
Best of Category in Plant Science	Columbia Willamette Chapter of Sigma Xi	The Effect of E-cigarettes On Plant Growth	Layaal Khellah, Salma Abdukadir	Islamic School of Portland	Nura Elmagbari

Category Awards

Category	Place	Title	Student List	Organization	Adult Sponsor
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Animal Sciences	First Place	Does the height of the a-frame and dogwalk affect the accuracy of a dog?	Madison Edmunds	Summa Meadow	Kynah Atwood
Animal Sciences	Second Place	An Analysis on the Reaction of Horses to Naturally Occurring and Synthesized Horse Calls	Julie Chen, Becca Bingham, Janie Lapray	Leslie Middle School	Michael Rockow
Animal Sciences	Second Place	How does the change between color and shape of an object in someones peripheral vision affect the angle at which	Drew Field	Summa Whitford	Carolee Dearborn
Animal Sciences	Third Place	Biofluorescence In Nature - The Response of Pelomdusa subrufa to Fluouresence	Fatima BrothersonErriche	Islamic School of Portland	Nura Elmagbari
Animal Sciences	Honorable Mention	Operation: ChickenGlow	Andrew Fronza	Mark Twain Middle School	Daniel Jamsa
Animal Sciences	Honorable Mention	Birds and Ultraviolet light	Patrick Jamsa	Mark Twain Middle School	Daniel Jamsa
Animal Sciences	Honorable Mention	Twist Tracker	Tessa Connor	Class Academy	Jaime Mitchell
Behavioral and Social Science	First Place	The Happiness Project	Lauren Hurley	Wood Middle School	Sarah Haefner
Behavioral and Social Science	First Place	Reaction Time and Multitasking, Who's Better? Youth, Teens or Adults?	Aadil Mohamed	Islamic School of Portland	Nura Elmagbari
Behavioral and Social Science	Second Place	The Einstellung Effect on Chess Players	Nancy Wu	ACCESS Academy	Alfonso Garcia Arriola
Behavioral and Social Science	Second Place	There is no truth. There is only perception.	Chloe Unflat	Robert Gray Middle School	David Wages

Behavioral and Social Science	Second Place	The Gender Gap	Sanya Surya	Meadow Park Middle School	Kynah Atwood
Behavioral and Social Science	Third Place	Running with Confidence	Mia Middleton	Rachel Carson Environmental Middle School	Rebecca Hall
Behavioral and Social Science	Third Place	Spatial Awareness and Memory: Does Gender Matter?	Hannah Goodman	Rosemont Ridge Middle School	Jessamyn Van Hook
Behavioral and Social Science	Third Place	Natural and Unnatural Food Dyes According to Personal Preference	Ella Anderson, Lindsay Wells	Oregon Trail Academy	Georgi Harris
Behavioral and Social Science	Third Place	How Smartphones Affect Your Sense of Time	Indigo Paris	Robert Gray Middle School	David Wages
Behavioral and Social Science	Honorable Mention	Mnemonics	Maya Malka	Bridlemile Elementary School	Larry Sherman
Behavioral and Social Science	Honorable Mention	Don't Judge a Gift by its Wrapping	Roxanne Buehler	Bridlemile Elementary School	Larry Sherman
Behavioral and Social Science	Honorable Mention	The Smell of Success	Ulfet Tayba	Islamic School of Portland	Nura Elmagbari
Behavioral and Social Science	Honorable Mention	The effect of Multi-tasking	Kayah Ryerson	Summa Meadow	Kynah Atwood
Behavioral and Social Science	Honorable Mention	Video Games to Manual Dexterity	Mason Swanson	Heritage Middle School	Karl Topping
Behavioral and Social Science	Honorable Mention	The Power of Suggestion	Parker McKasson	Heritage Middle School	Karl Topping
Chemistry	First Place	Testing the Level of Vitamin C in Different Fruits & Vegetables	Mahmood Jawad	Oregon Islamic Academy	Yusef Shari'ati
Chemistry	First Place	Creating an Efficient Renewable Energy Source Using a PEMFC, Water Electrolysis and Shewanella Spp.	Rohan Wagh	Summa Stoller	Pam Svenson

Chemistry	Second Place	Sip Sip, Pure? - Why lead and water shouldn't party	Aphaf Alattar, Maysa AbuSneineh, Rawdah Hegazy	Baker Web Academy	Manar Alattar
Chemistry	Second Place	How Do Different Solvents Affect the Rf Values of Ink When Using Paper Chromatography?	Jacob Slifka	Banks Middle School	Tony Richeson
Chemistry	Second Place	What Temperature Of Water Makes Alka-Seltzer Dissolve Faster	Madeline Vandehey	Banks Middle School	Tony Richeson
Chemistry	Third Place	How does the temperature of water that tea rests in affect the amount of caffeine extracted?	Shota Wetlesen	Summa Whitford	Carolee Dearborn
Chemistry	Third Place	Under the Sea	Sunny Karbowicz	Winterhaven Middle School	Jay Dyer
Chemistry	Third Place	Catchy Chlorine	Anna Roy	Blanchet Catholic School	Gail Armstrong
Chemistry	Third Place	In Search Of The Chewiest Chew	Mimi Papathanasopoulos	St. Mary Catholic School	Michelle Heuberger
Chemistry	Honorable Mention	Rocketology	Rory Wood, Grace Kulla, Iris Thompson	Oregon Trail Academy	Georgi Harris
Chemistry	Honorable Mention	What Makes Ice Melt the Fastest?	Fatima Bhuiyan	Oregon Islamic Academy	Yusef Shari'ati
Chemistry	Honorable Mention	Staying Hot on Hand Warmer Technology	Sejal Goud	Summa Stoller	Pam Svenson
Chemistry	Honorable Mention	As the Cookie Crumbles	Cameron Wilder	Valley Catholic Middle School	Sarah Zinzer
Chemistry	Honorable Mention	Tests in Moisturizers	Gwyneth Bao	Class Academy	Jaime Mitchell
Chemistry	Honorable Mention	Preventing Fruit from Browning	Clara Donohue	Cedar Park Middle School	Winter Chung

Consumer Products Testing	First Place	How Effective Are Different SPF's of Sunscreen When Exposed to UVB Light	Greta Ferguson, Alexa Tsai	Oregon Episcopal Middle School	Ryan Holland
Consumer Products Testing	First Place	How Does the Number of SPF Affect Ultraviolet Transfer?	Daniel Page	Rosemont Ridge Middle School	Doug Samarron
Consumer Products Testing	Second Place	Nitrates in Water	Justus Gabriel	Rachel Carson Environmental Middle School	Rebecca Hall
Consumer Products Testing	Second Place	Soap Scum Busters: Assessing Soap Scum Removal Effectiveness by Light Transmittance	Muhammad Faks, Yousif Ibrahim	Oregon Islamic Academy	Yusef Shari'ati
Consumer Products Testing	Second Place	Effectiveness of Concussion Bands	Ani Posner	Robert Gray Middle School	David Wages
Consumer Products Testing	Third Place	Nailed It! A Correlation between the Price of Red Nail Polish and its Quality	Rabha Reda	Oregon Islamic Academy	Yusef Shari'ati
Consumer Products Testing	Third Place	Keeping Your Pearly Whites Pearly! DIY Toothpaste or Store Bought?	Muhammad Gilliard	Islamic School of Portland	Nura Elmagbari
Consumer Products Testing	Third Place	Conduction Production	MacKenzie Thomas-Graves	Blanchet Catholic School	Gail Armstrong
Consumer Products Testing	Honorable Mention	Face Off: DIY vs Store Bought Makeup Remover	Jannah Khamis, Asiyah Ali	Islamic School of Portland	Nura Elmagbari
Consumer Products Testing	Honorable Mention	Natural vs. Chemical Stain Removers	Molly Piszczek	Highland Park Summa Program	Jeffrey Locke
Consumer Products Testing	Honorable Mention	Hot Stuff	Elsa Heidrich	Highland Park Summa Program	Jeffrey Locke

Earth Science	First Place	How does particulate matter impact sky glow?	Hannah Witscher	ACCESS Academy	Alfonso Garcia Arriola
Earth Science	First Place	How does the amount of grass in a plot of land affect the amount of erosion?	Madison Gadbow	Summa Whitford	Carolee Dearborn
Earth Science	Second Place	Cratering: The Effects of Velocity and Angle of Impact	Daniel Anderson	Carden Cascade Academy	Todd Anderson
Earth Science	Second Place	Avalanche!	Isabella Engblom	Meadow Park Middle School	Kynah Atwood
Earth Science	Third Place	Tsunami!	Maddy Pierson	Leslie Middle School	Michael Rockow
Earth Science	Third Place	The Effect of Ocean Acidification on the Shells of Shellfish	Lila Schweinfurth, Grace Armstrong, Natalia Pantuso	Oregon Episcopal Middle School	Ryan Holland
Earth Science	Third Place	Does the average temperature and amount of rainfall during summer affect the amount of snowfall in the winter?	Elena Woo	Summa Cedar	Winter Chung
Earth Science	Third Place	At what angle should a building be built, so that it best resists the effects of a Tsunami?	Suhani Goyal	Summa Stoller	Pam Svenson
Energy	First Place	Bio Methane Generator	Sydney Bruton, Gigi Schweitzer	Rosemont Ridge Middle School	Theresa Ellis
Energy	First Place	A Highly Efficient Proton Exchange Membrane (PEM) Hydrogen Fuel Cell	Nayan Murthy	Catlin Gabel School	Anand Murthy
Energy	Second Place	Is seawater an effective	John Cost	Banks Middle School	Tony Richeson



		electrolyte in generating oxyhydrogen			
Energy	Second Place	Using a Bike to Create Electricity	John Nagler	Athey Creek Middle School	Stephen Walsh
Energy	Second Place	Amplified Solar Energy	Izak Schmidlkofer	St. Mary Catholic School	Michelle Heuberger
Energy	Third Place	A Study of Electric Power Wasted by Idle Chargers	Nia Nasiri	Summa Stoller	Pam Svenson
Energy	Third Place	Micro-Hydropower	Michael Culp	Wood Middle School	Sarah Haefner
Energy	Third Place	Global Warming in a Bottle	Cielo Chavez	Blanchet Catholic School	Gail Armstrong
Energy	Third Place	Rainwater Power Generator	Jack Mustonen, Ben Mustonen	Holy Trinity School	Jill Carter
Energy	Honorable Mention	H2, Oh?	Benjamin Tracy	Rachel Carson Environmental Middle School	Rebecca Hall
Energy	Honorable Mention	Energy From Soil	Andrew Gewecke, Zoe Strothkamp	Oregon Episcopal Middle School	Ryan Holland
Energy	Honorable Mention	Chicken Water Insulation	Charlie Armstrong	Whitford Middle School	Robin Schroeder
Energy	Honorable Mention	The Power of Graphene	Jennifer D'Silva	Summa Stoller	Pam Svenson
Energy	Honorable Mention	What is the best type of chemical reaction to power a pneumatic engine?	Sethu Eapen	Cedar Park Middle School	Winter Chung
Energy	Honorable Mention	Potato Electricity	Joseph Currier	Carden Cascade Academy	Elizabeth Sowles
Engineering	First Place	How Does the Surface Area of a Vortex Generator Set effect the Stall Angle of an Airfoil?	Nick Surina	Lake Oswego Junior High	Joe Godfrey

Engineering	Second Place	EZ Mattress Pad	Anneka Wedell	Oregon Trail Academy	Georgi Harris
Engineering	Second Place	The Hovercraft	Weston Tournay	Mark Twain Middle School	Daniel Jamsa
Engineering	Second Place	Low cost aerospace solution	Kenneth Browder	Summa Meadow	Kynah Atwood
Engineering	Third Place	Save the Egg	Katy Morris, Kiara Martinelli	Leslie Middle School	Michael Rockow
Engineering	Third Place	How can we best design a maglev train and track to hold its weight and remain well balanced?	Timothy Shortell	Summa Cedar	Winter Chung
Engineering	Third Place	Improved Nightlight	Stephanie Bashoury	Inza R. Wood Middle School	Alexandra Feuerstein
Engineering	Third Place	Lift	Emily Becher	Highland Park Summa Program	Jeffrey Locke
Engineering	Honorable Mention	Pedal Power	Hayden Wierman	Athey Creek Middle School	Ian Stober
Engineering: Mechanical and Materials	First Place	Can Plastic Be Recycled to Become Filament for 3D Printing?	Neel Jain	Rosemont Ridge Middle School	Peter Hays
Engineering: Mechanical and Materials	First Place	Designing a Portable Moss Filtration System	Jacque Molloseau	Oregon Episcopal Middle School	Ryan Holland
Engineering: Mechanical and Materials	Second Place	Developing an Environmentally Smart Shower	Anya Anand	ACCESS Academy	Alfonso Garcia Arriola
Engineering: Mechanical and Materials	Second Place	Engineering Piezoelectric Devices for Self Transportation	Devan Thakkar	Oregon Episcopal Middle School	Ryan Holland
Engineering: Mechanical and Materials	Second Place	Please Enter: Linear Magnetic Accelerator	Justin LeBlanc	Athey Creek Middle School	Ian Stober

Engineering: Mechanical and Materials	Third Place	Boarding School	Gareth Cooper	Rachel Carson Environmental Middle School	Rebecca Hall
Engineering: Mechanical and Materials	Third Place	Build a Football Helmet that Can Stand Up to Impact and Prevent Concussions	Matt Greyerbiehl	Athey Creek Middle School	Stephen Walsh
Engineering: Mechanical and Materials	Third Place	Can I climb a wall using vacuums?	Noah Yamashiro	Summa Meadow	Kynah Atwood
Engineering: Mechanical and Materials	Third Place	Hands On!	Allie Surprise	Highland Park Summa Program	Jeffrey Locke
Engineering: Mechanical and Materials	Honorable Mention	Can I create a sensor that accurately measures pressure and temperature, stores the data on a micro-SD card, and fits	Alex Fryer	Summa Whitford	Carolee Dearborn
Engineering: Mechanical and Materials	Honorable Mention	The Purr-fect Cat	Soren Ofstie, Tamzyn Pendleton	Oregon Trail Academy	Georgi Harris
Engineering: Mechanical and Materials	Honorable Mention	Cool It Computer!	Yoonis Ali	Islamic School of Portland	Nura Elmagbari
Engineering: Mechanical and Materials	Honorable Mention	Bridge The Gap	Anish Lagudu	Class Academy	Jaime Mitchell
Engineering: Mechanical and Materials	Honorable Mention	It's Raining, It's Pouring, and Buildings are Corroding	Emma Sells	Heritage Middle School	Karl Topping
Engineering: Mechanical and Materials	Honorable Mention	Wi-Fi: Covering Distances	Dylan Maude	Heritage Middle School	Karl Topping
Engineering: Mechanical and Materials	Honorable Mention	Creating an Emergency Lockdown System Using Voice Recognition	Rhiannon Briggs	Highland Park Summa Program	Jeffrey Locke

Environmental Science	First Place	Thirsty? How about a Cup of Ocean Water?	Azeezah Acar, Huda Basharow	Oregon Islamic Academy	Yusef Shari'ati
Environmental Science	First Place	Predicting the Distribution of Three Endangered Species in Oregon using R, Random Forests, and Statistical Analysis Techniques	Nashita Rahman	Summa Cedar	Winter Chung
Environmental Science	Second Place	Preparing for the big one: Water in crisis: Home drinking water analysis for an earthquake	Clark Vowels	Bridlemile Elementary School	Larry Sherman
Environmental Science	Second Place	Mycelium Flowing	Maeve Eynard	St. Pius X School	Teresa Sebert
Environmental Science	Second Place	To Drink or Not to Drink, That is the Question	Laura Cooksey, Elsa Buchholz	Valley Catholic Middle School	Sarah Zinzer
Environmental Science	Third Place	Too Much of a Good Thing?	Manar Abdeljawad	Islamic School of Portland	Nura Elmagbari
Environmental Science	Third Place	How does the base layer in a bioswale affect its effectiveness in filtering water?	Jake Davis	Meadow Park Middle School	Kynah Atwood
Environmental Science	Third Place	Does Urban Life Affect Skyglow?	Penelope Spurr	Lake Oswego Junior High	Joe Godfrey
Environmental Science	Third Place	How Effective are Different Structures and Configurations in Minimizing the Damage Caused by a Tsunami ?	Vipanchi Mungara	Carden Cascade Academy	Archana Mungara
Environmental Science	Honorable Mention	Don't Dump!	Brennan Lukas	Rachel Carson Environmental Middle School	Rebecca Hall

Environmental Science	Honorable Mention	Filtering Air	Aammya Sapra	Summa Stoller	Pam Svenson
Environmental Science	Honorable Mention	Nephrolepis Exaltata: The Key To Healthier Homes?	Alice Kang, Kyra Allen	Wood Middle School	Sarah Haefner
Environmental Science	Honorable Mention	Is it possible to utilize Vibrio Fischeri as a quick and inexpensive biosensor for flame retardant pollution levels in aquatic	Arjun Jain	Summa Meadow	Kynah Atwood
Mathematics and Computer Science	First Place	The world's smartest sleep system	Nisala Kalupahana	Evergreen Middle School	Susan Weidkamp
Mathematics and Computer Science	First Place	To Phi or Not to Phi	Katherine Gomes	Yamhill Carlton School District	Lisa Jacobs
Mathematics and Computer Science	Second Place	Not Just a Pretty Face	Grace Armstrong	Yamhill Carlton School District	Lisa Jacobs
Mathematics and Computer Science	Second Place	Creating a Computer Algorithm for Determining the Difficulty of a Piano Piece	Caleb Chan	Summa Meadow	Kynah Atwood
Mathematics and Computer Science	Second Place	How can I improve the accuracy of a gesture recognition program?	Marcel Kida	Meadow Park Middle School	Kynah Atwood
Mathematics and Computer Science	Third Place	Branching Patterns	Alan Kappler	Carden Cascade Academy	Elizabeth Kappler
Mathematics and Computer Science	Third Place	Fulfill the protein requirements of a team of four astronauts for a mission to Mars lasting about two and a	Sophia Erickson	Summa Whitford	Carolee Dearborn

Mathematics and Computer Science	Third Place	How to Build Safer Cars	Mostafa Osman	Oregon Islamic Academy	Yusef Shari'ati
Mathematics and Computer Science	Third Place	Communication App for the Deaf	Kanthi Karumbu	Summa Stoller	Pam Svenson
Mathematics and Computer Science	Honorable Mention	A Sense of Security; Designing a Cost Effective Human Movement Motion Sensor	Zareef Amyeen	Summa Stoller	Pam Svenson
Mathematics and Computer Science	Honorable Mention	Is it possible for a computer program to learn basic functions on its own?	Jalen Chrysos	Meadow Park Middle School	Kynah Atwood
Mathematics and Computer Science	Honorable Mention	EV3 Printer	Claire Wong	Holy Trinity School	Jill Carter
Medicine and Health Sciences	First Place	Playground Injuries	Nina Frias	Bridlemile Elementary School	Larry Sherman
Medicine and Health Sciences	First Place	The Anemiapp: An App That Can Detect Anemia	Mithra Karamchedu	Summa Stoller	Pam Svenson
Medicine and Health Sciences	Second Place	Pain Distraction	Morgan Miller	Bridlemile Elementary School	Larry Sherman
Medicine and Health Sciences	Second Place	A Low-Budget Look at DNA Charge	Lucas Braun	Summa Whitford	Carolee Dearborn
Medicine and Health Sciences	Second Place	Factors Affecting Enzyme Activity	Audrey Saing	Highland Park Summa Program	Jeffrey Locke
Medicine and Health Sciences	Third Place	Does Use of Electronic Devices Affect Sleep Patterns in Young Adolescents?	Alanna Sherman	Robert Gray Middle School	David Wages
Medicine and Health Sciences	Third Place	The Effect of Reward and Punishment on BP and Heart Rate in Children	Sumayah Nuradin	Islamic School of Portland	Nura Elmagbari

Medicine and Health Sciences	Third Place	Comparing the Protein Sequences of Different Influenza Virus Strains to Determine Why the Influenza Vaccine Doesn't Always Work	Dhruthi Mandavilli	Roosevelt Middle School	Bhaskar Mandavilli
Medicine and Health Sciences	Third Place	Are concussions in soccer preventable?	Lucy Vanveldhuisen	Cedar Park Middle School	Winter Chung
Medicine and Health Sciences	Honorable Mention	Now That's Using Your Head	William Findlay	ACCESS Academy	Alfonso Garcia Arriola
Medicine and Health Sciences	Honorable Mention	The Effect of Music on Memory Retention	Eleanor Potter	Robert Gray Middle School	David Wages
Medicine and Health Sciences	Honorable Mention	Early Detection of Juvenile Diabetes	Rohan Ahluwalia	Summa Stoller	Pam Svenson
Medicine and Health Sciences	Honorable Mention	Estrogen Effects	Briggs Moore	Wood Middle School	Sarah Haefner
Medicine and Health Sciences	Honorable Mention	Color Fonts Effect on Memory Retention	Grace Thomas	Heritage Middle School	Karl Topping
Medicine and Health Sciences	Honorable Mention	SmartGuard	Christopher Ishac	Holy Trinity School	Jill Carter
Microbiology	First Place	Growth of bacteria on Mars like media	Jack Conde	Bend Science Station	Danny Martin
Microbiology	First Place	Which Antibiotics Do Bacteria Evolve to Become Resistant to quickest?	Will Leonard	Summa Cedar	Winter Chung
Microbiology	Second Place	Yeast Viability	Maggie Kelly	Mark Twain Middle School	Daniel Jamsa
Microbiology	Second Place	Slime Molds and How they Can be Used to Solve The Minimum Spanning Tree Problem	Matthew Westley	Summa Stoller	Pam Svenson

Microbiology	Second Place	Optimization of Biogenic Silica Production by Diatom Navicula	Dev Udata	Valley Catholic Middle School	Sarah Zinzer
Microbiology	Third Place	The Power Of Enzymes	Claire Novak	St. Paul Parochial School	Jonathon Williams
Microbiology	Third Place	Into the gauntlet	Fiona Lewis	Winterhaven Middle School	Jay Dyer
Microbiology	Third Place	What Kills Mold?	Jacob McClelland	Athey Creek Middle School	Stephen Walsh
Microbiology	Third Place	Yeast Feasts	Carter Thomas	Gardiner Middle School	Rebecca Thomas
Microbiology	Honorable Mention	The effectiveness on the garlic on the prevention of bacterial growth	Abdulkadir Tayba	Islamic School of Portland	Nura Elmagbari
Microbiology	Honorable Mention	How does the temperature of the initial rising environment affect the height of bread?	Amy Wang, Alyssa Seibt	Lake Oswego Junior High	Joe Godfrey
Physics: Electromagnetic	First Place	Introduction to Radio Astronomy	Vishwesh Krishnamurthy	Carden Cascade Academy	Rajeshwaran Krishnamurthy
Physics: Electromagnetic	First Place	Impact of Voltage On Ion Engine Output	John Madland	McKinley Elementary School	Jennifer Madland
Physics: Electromagnetic	Second Place	Light Wave Signal	Lui Blomberg	Wood Middle School	Amanda Stewart
Physics: Electromagnetic	Second Place	The Effects of Power on Interference Patterns	Keishi Vannithambya	Summa Stoller	Pam Svenson
Physics: Electromagnetic	Second Place	How does changing the length, cross sectional area, and temperature of wire affect the resistance of the wire?	Doris Yang	Lake Oswego Junior High	Joe Godfrey



Physics: Electromagnetic	Third Place	A Virtual Reality	Kaitlyn Grosh	Cascades Academy of Central Oregon	Anne-Marie Eklund
Physics: Electromagnetic	Third Place	The Value Of A Penny Battery V.S. A AA Battery	Malek Hodroj	Robert Gray Middle School	David Wages
Physics: Electromagnetic	Third Place	Factors That Affect Electromagnetic Generator Output	Krishna Saxena	Summa Stoller	Pam Svenson
Physics: Electromagnetic	Third Place	Salt Water Electricity	Ria Debnath	Valley Catholic Middle School	Sarah Zinzer
Physics: Electromagnetic	Honorable Mention	Does Temperature Affect the refraction of a Laser?	Chase Harmon, Andrew Shelofsky	Rosemont Ridge Middle School	Doug Samarron
Physics: Electromagnetic	Honorable Mention	Dia-bolical Magnetic Levitation	Logan Wilson	Mark Twain Middle School	Daniel Jamsa
Physics: Electromagnetic	Honorable Mention	Mirror, Mirror	Isabella Davison	Heritage Middle School	Karl Topping
Physics: Electromagnetic	Honorable Mention	V vs A	Maximus Molyneux	Blanchet Catholic School	Gail Armstrong
Physics: Mechanical	First Place	Swinging Around	Meher Khan	Valley Catholic Middle School	Sarah Zinzer
Physics: Mechanical	First Place	The Magnus Effect	Trek Eriksson	Highland Park Summa Program	Jeffrey Locke
Physics: Mechanical	Second Place	How do objects react to different speeds of wind next to them?	Maansi Singh	Summa Cedar	Winter Chung
Physics: Mechanical	Second Place	Poiseuille's Law under Clinical Conditions	Trent Wigod	Heritage Middle School	Karl Topping
Physics: Mechanical	Second Place	Impact analysis of reed thickness on saxophone intonation	Jay Heymann	Lakeridge Junior High School	Bob Heymann
Physics: Mechanical	Third Place	Effect of gunpowder amount on bullet accuracy	Fiona Bolen	Robert Gray Middle School	David Wages

Physics: Mechanical	Third Place	Burn, baby, burn!	Michaela Cheechov	Winterhaven Middle School	Jay Dyer
Physics: Mechanical	Third Place	How Does the Kinetic Friction of a Surface Affect the Distance a Soccer Ball Rolls?	Lauren Joyce, Avery Holmes	Lake Oswego Junior High	Joe Godfrey
Physics: Mechanical	Third Place	Permeability Coefficient (Darcy's Law)	Kara Ng	Highland Park Summa Program	Jeffrey Locke
Physics: Mechanical	Honorable Mention	Full of Hot Air	Griffin Jourda	Winterhaven Middle School	Jay Dyer
Physics: Mechanical	Honorable Mention	Elastic Collision of Turf versus Grass	Genae Vanek	Cascade Heights Public Charter School	Melanie Adams
Plant Sciences	First Place	Buttercrunch's Favorite Food: Growing Lettuce in Varying Aquaponic Systems	Teaghan Knox	Bend Science Station	Danny Martin
Plant Sciences	First Place	Will Vegetables Grow Better on Martian Soil Simulant As Compared to Earth Soil?	Kate Sousley	Athey Creek Middle School	Stephen Walsh
Plant Sciences	Second Place	The Effect of Hydrophilic and Hydrophobic Probiotic Bacteria on Plants in Flood and Drought Conditions	Nishaant Sistla	ACCESS Academy	Alfonso Garcia Arriola
Plant Sciences	Second Place	Which Light Source Makes the Healthiest Bioluminescent Algae	Sofia Stone, Annie Watson	Oregon Episcopal Middle School	Ryan Holland
Plant Sciences	Second Place	Examining the Effect of Organic Fertilizer on a Sunflower	Ave Gray	Whitford Middle School	Robin Schroeder

Plant Sciences	Third Place	Hydroponics versus Organic Soil: Which technique is more effective when growing medicinal plants?	Navyatha Buddi	Meadow Park Middle School	Kynah Atwood
Plant Sciences	Third Place	Hydroponics an End to Food Deserts	Cydney Stables	St. Matthew School	Robert Read
Plant Sciences	Honorable Mention	Can You Use Less Water When Its Hotter?	Brian Kennedy, Luca Capriotti	St. Pius X School	Teresa Sebert
Plant Sciences	Honorable Mention	Is hydroponics an efficient method of urban agriculture?	Jonas Larson	Meadow Park Middle School	Kynah Atwood
Plant Sciences	Honorable Mention	The effect of magnetic fields on bean plant growth	McKenzie Grisham	Lake Oswego Junior High	Joe Godfrey
Plant Sciences	Honorable Mention	Is Bigger Always Better?	Meiling Masterson	Cascade Heights Public Charter School	Janice Venture

Special Awards

Special Award	Award Sponsor	Title	Student List	Organization	Adult Sponsor
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Water = Energy	Kaitlyn Dobler	Rachel Carson Environmental Middle School	Rebecca Hall
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Does the average temperature and amount of rainfall during summer affect the amount of snowfall in the winter?	Elena Woo	Summa Cedar	Winter Chung
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Analysis of Correlation Patterns Among Active Fires, Ozone, Acid Rain, and Other Forms of Pollution Using	Rupert Li	Summa Cedar	Winter Chung

		Principal Component Analysis			
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Does Urban Life Affect Skyglow?	Penelope Spurr	Lake Oswego Junior High	Joe Godfrey
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Rainwater Power Generator	Jack Mustonen, Ben Mustonen	Holy Trinity School	Jill Carter
Outstanding Research in Psychology	American Psychological Association	The Einstellung Effect on Chess Players	Nancy Wu	ACCESS Academy	Alfonso Garcia Arriola
Outstanding Research in Psychology	American Psychological Association	There is no truth. There is only perception.	Chloe Unflat	Robert Gray Middle School	David Wages
Outstanding Research in Psychology	American Psychological Association	The Happiness Project	Lauren Hurley	Wood Middle School	Sarah Haefner
Army Outstanding Middle School Project	Army Research Office, U.S. Army	How to Build Safer Cars	Mostafa Osman	Oregon Islamic Academy	Yusef Shari'ati
Outstanding Geoscience Project	Association Of Women Geoscientists	How does particulate matter impact sky glow?	Hannah Witscher	ACCESS Academy	Alfonso Garcia Arriola
Outstanding Geoscience Project	Association Of Women Geoscientists	How does the amount of grass in a plot of land affect the amount of erosion?	Madison Gadbow	Summa Whitford	Carolee Dearborn
Outstanding Geoscience Project	Association Of Women Geoscientists	At what angle should a building be built, so that it best resists the effects of a Tsunami?	Suhani Goyal	Summa Stoller	Pam Svenson
IEEE Special Awards	IEEE Oregon	How does the change between color and shape of an object in someones peripheral vision affect the angle at which	Drew Field	Summa Whitford	Carolee Dearborn

IEEE Special Awards	IEEE Oregon	How can parking sensors at the front of a car be made more cheap as and assessible in different situations?	Catherine Lee	Summa Cedar	Winter Chung
IEEE Special Awards	IEEE Oregon	Comparing the Efficiencies of Multiple Substrates during the Electrolysis of Water using a Galvanic Electrochemical Cell	Sachin Pillai	Summa Stoller	Pam Svenson
IEEE Special Awards	IEEE Oregon	How can I improve the accuracy of a gesture recognition program?	Marcel Kida	Summa Meadow	Kynah Atwood
IEEE Special Awards	IEEE Oregon	SmartGuard	Christopher Ishac	Holy Trinity School	Jill Carter
IEEE Special Awards	IEEE Oregon	EV3 Printer	Claire Wong	Holy Trinity School	Jill Carter
Outstanding Aquatic Related Environmental Science Project	Lake Oswego Corporation	Don't Dump!	Brennan Lukas	Rachel Carson Environmental Middle School	Rebecca Hall
Mu Alpha Theta Award	Mu Alpha Theta	Branching Patterns	Alan Kappler	Carden Cascade Academy	Elizabeth Kappler
Taking the Pulse of the Planet	National Oceanic and Atmospheric Administration	Ocean Acidification	Ashley Newbore, Kat Oswald	Rosemont Ridge Middle School	Theresa Ellis
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Branching Patterns	Alan Kappler	Carden Cascade Academy	Elizabeth Kappler
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Fulfill the protein requirements of a team of four astronauts for a mission to Mars lasting about two and a	Sophia Erickson	Summa Whitford	Carolee Dearborn

Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Python to Robot	Makana Burch	Oregon Episcopal Middle School	Ryan Holland
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	The Anemiapp: An App That Can Detect Anemia	Mithra Karamchedu	Summa Stoller	Pam Svenson
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Micro-Hydropower	Michael Culp	Wood Middle School	Sarah Haefner
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Creating a Computer Algorithm for Determining the Difficulty of a Piano Piece	Caleb Chan	Summa Meadow	Kynah Atwood
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Introduction to Radio Astronomy	Vishwesh Krishnamurthy	Carden Cascade Academy	Rajeshwaran Krishnamurthy
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Creating an Emergency Lockdown System Using Voice Recognition	Rhiannon Briggs	Highland Park Summa Program	Jeffrey Locke
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	Scoby's Sweet Tooth	Harper Smith	Bend Science Station	Danny Martin
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	Predicting the Distribution of Three Endangered Species in Oregon using R, Random Forests, and Statistical Analysis Techniques	Nashita Rahman	Summa Cedar	Winter Chung
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	Analysis of Correlation Patterns Among Active Fires, Ozone, Acid Rain, and Other Forms of Pollution Using	Rupert Li	Summa Cedar	Winter Chung

		Principal Component Analysis			
Outstanding Natural Resources Science Project	Pacific NW Research Station, USDA Forest Service	Predicting the Distribution of Three Endangered Species in Oregon using R, Random Forests, and Statistical Analysis Techniques	Nashita Rahman	Summa Cedar	Winter Chung
Outstanding Air Quality Project	Southwest Clean Air Agency	Analysis of Correlation Patterns Among Active Fires, Ozone, Acid Rain, and Other Forms of Pollution Using Principal Component Analysis	Rupert Li	Summa Cedar	Winter Chung
Outstanding Science or Engineering Project	U.S. Air Force	Engineering Piezoelectric Devices for Self Transportation	Devan Thakkar	Oregon Episcopal Middle School	Ryan Holland
Outstanding Science or Engineering Project	U.S. Air Force	How can parking sensors at the front of a car be made more cheap as and assessible in different situations?	Catherine Lee	Summa Cedar	Winter Chung
Outstanding Science or Engineering Project	U.S. Air Force	What is the best type of chemical reaction to power a pneumatic engine?	Sethu Eapen	Cedar Park Middle School	Winter Chung
Outstanding Science or Engineering Project	U.S. Air Force	Airbrella	Hunter Lehman	Cascade Heights Public Charter School	Melanie Adams
Outstanding Project in Water Quality	U.S. Geological Survey, Oregon Water Science Center	Preparing for the big one: Water in crisis: Home drinking water analysis for an eathquake	Clark Vowels	Bridlemile Elementary School	Larry Sherman

Outstanding Project in Water Quality	U.S. Geological Survey, Oregon Water Science Center	To Drink or Not to Drink, That is the Question	Laura Cooksey, Elsa Buchholz	Valley Catholic Middle School	Sarah Zinzer
Outstanding Use of the International System of Units	U.S. Metric Association	A Study of Electric Power Wasted by Idle Chargers	Nia Nasiri	Summa Stoller	Pam Svenson
Outstanding Use of the International System of Units	U.S. Metric Association	Saving the World by Turning Trash into Biogas	Ekansh Mittal	Class Academy	Jaime Mitchell
Outstanding Use of the International System of Units	U.S. Metric Association	A Highly Efficient Proton Exchange Membrane (PEM) Hydrogen Fuel Cell	Nayan Murthy	Catlin Gabel School	Anand Murthy
Surgeon Generals Special Science Award	U.S. Public Health Service	Effectiveness of Concussion Bands	Ani Posner	Robert Gray Middle School	David Wages
Naval Excellence in Science and Engineering Award	US Navy & USMC	Branching Patterns	Alan Kappler	Carden Cascade Academy	Elizabeth Kappler
Naval Excellence in Science and Engineering Award	US Navy & USMC	Fulfill the protein requirements of a team of four astronauts for a mission to Mars lasting about two and a	Sophia Erickson	Summa Whitford	Carolee Dearborn
Naval Excellence in Science and Engineering Award	US Navy & USMC	Python to Robot	Makana Burch	Oregon Episcopal Middle School	Ryan Holland
Naval Excellence in Science and Engineering Award	US Navy & USMC	The Anemiapp: An App That Can Detect Anemia	Mithra Karamchedu	Summa Stoller	Pam Svenson
Naval Excellence in Science and Engineering Award	US Navy & USMC	Micro-Hydropower	Michael Culp	Wood Middle School	Sarah Haefner
Naval Excellence in Science and	US Navy & USMC	Creating a Computer Algorithm for	Caleb Chan	Summa Meadow	Kynah Atwood



Engineering Award		Determining the Difficulty of a Piano Piece			
Naval Excellence in Science and Engineering Award	US Navy & USMC	Introduction to Radio Astronomy	Vishwesh Krishnamurthy	Carden Cascade Academy	Rajeshwaran Krishnamurthy
Naval Excellence in Science and Engineering Award	US Navy & USMC	Creating an Emergency Lockdown System Using Voice Recognition	Rhiannon Briggs	Highland Park Summa Program	Jeffrey Locke
Water Prize Award of Excellence	Water Environment Federation	The Coral is Dying!	Kelley Maahs	Rachel Carson Environmental Middle School	Rebecca Hall
Water Prize Award of Excellence	Water Environment Federation	Nitrates in Water	Justus Gabriel	Rachel Carson Environmental Middle School	Rebecca Hall
Water Prize Award of Excellence	Water Environment Federation	Developing an Environmentally Smart Shower	Anya Anand	ACCESS Academy	Alfonso Garcia Arriola
Water Prize Award of Excellence	Water Environment Federation	Under the Sea	Sunny Karbowicz	Winterhaven Middle School	Jay Dyer
Water Prize Award of Excellence	Water Environment Federation	Bioswales	Paige Hatch	Highland Park Summa Program	Jeffrey Locke