

## 2013 Intel NWSE High school awards

The following awards were presented to high school students April 5, 2013 at the Intel Northwest Science Expo.

### Best of Fair and Intel ISEF Finalists

award	sponsor		project title	student	school	mentor
Best of Fair-Life	Legacy Emanuel Medical Center	HS-ME-0074	Alpha-Alumina Nanoparticles Activate the Nalp3 Inflammasome and Induce IL-1b Signaling for Therapeutic Cancer Vaccination	Amber Tang	Lakeridge High School	Dr. Haiyan Li
Best of Fair-Physical	Legacy Emanuel Medical Center	HS-EM-0019	The Fabrication and Characterization of Top and Bottom Gated Carbon Nanotube Field Effect Transistors using Printed Electronics	Harsha Uppili	Oregon Episcopal School	Peter Langley
<b>ISEF Finalist</b>	Northwest Science Expo System	HS-ET-0003	An Investigation of Gas Diffusion Layers and their Effects on the Performance of PEM Fuel Cells	Vijay Edupuganti	Oregon Episcopal School	Peter Langley
ISEF Finalist	Northwest Science Expo System	HS-AN-0018	The Effect of Caffeine on Culex Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez
ISEF Finalist	Northwest Science Expo System	HS-PH-0060	Rapid Optimization of Quantum Dot Solar Cells Using a Novel Rating System Integrating Quantum Mechanical Modeling and Solar Absorption Algorithm	Valerie Ding	Catlin Gabel School	Andrew Merrill
ISEF Finalist	Northwest Science Expo System	HS-VM-0022	The Novel Implementation of Biochar Cathodes in Microbial Fuel Cells - Phase I	Meghana Rao	Jesuit High School	Anita Rao
ISEF Finalist	Northwest Science Expo System	HS-CO-0021	The Introduction of Higher-Order Encoding For Synthesizing Quantum Automata and an Analysis of Novel Encoding Mechanisms	Ankit Gupta, Kevin Wang	Westview High School	Debbie Cooper
ISEF Finalist	Northwest Science Expo System	HS-BC-0059	Synergistic Cytotoxic Efficiency of Novel and Traditional Anti-Cancer Drugs in a Parallel/Crossover Model	Mukund Raguram	Oregon Episcopal School	Ryan Holland

### Scholarships

<b>PSU Maseeh College of Engineering and Computer Science Scholarship</b>	PSU College of Engineering and Computer Science	HS-EM-0019	The Fabrication and Characterization of Top and Bottom Gated Carbon Nanotube Field Effect Transistors using Printed Electronics	Harsha Uppili	Oregon Episcopal School	Peter Langley
<b>OSU College of Engineering Scholarship</b>	Oregon State University	HS-ET-0031	Heating with Compost	Grace Ray	Gresham High School	Stephen Scannell
OSU College of Engineering Scholarship	Oregon State University	HS-EE-0026	Creating a Self-Balancing Drinks Container to be Attached to an Arbitrary Mobility Device	Teresa Condon	Wilsonville High School	Jim O'Connell

OSU General Scholarship	Oregon State University	HS-EA-0006	Assessing the variation in Douglas Fir ( <i>Pseudotsuga menziesii</i> ) tree growth relative to proximity to of an active road	Kenia Fuentes, Katya Campos	Wilsonville High School	Jay Schauer
OSU General Scholarship	Oregon State University	HS-AN-0018	The Effect of Caffeine on Culex Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez
<b>University of Oregon Scholarships</b>	University of Oregon	HS-MI-0042	The effects of a more acidic environment on the bioluminescent bacterial marine microbe <i>Vibrio fischeri</i> .	Dylan Martins	West Linn High School	James Hartmann
University of Oregon Scholarships	University of Oregon	HS-BE-0017	The Effects of Age, Gender, and Media Exposure on Emotion Recognition and Perception	Alexandra Ulmer, Sarayu Caulfield	Oregon Episcopal School	Ryan Holland
University of Portland Scholarships	University of Portland	HS-AN-0018	The Effect of Caffeine on Culex Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez
University of Portland Scholarships	University of Portland	HS-CM-0025	The Role of the AMP-Activated Protein Kinase (AMPK) in Neurodegeneration in <i>Drosophila melanogaster</i>	Kyra Patton	Sunset High School	Show-Ling Shyng

## Special Awards

Special Award	Award Sponsor	Exhibit Number	Title	Student	Organization	Adult Sponsor
Outstanding Chemistry Project	American Chemical Society, Portland Section	HS-CH-0001	Cadmium-Selenide based dye sensitized solar cells	Zachary Winger	Merlo Station High School	Joel Laney
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	HS-VA-0023	The effect of Dispersant on Sea Urchin Eggs	Shannon Brennan	Oregon Episcopal School	Kristen Myers
Outstanding Research in Psychology	American Psychological Association	HS-BE-0127	The effect of Dog Ownership on Human Physical Health	Austin Gardner	Gresham High School	Kathy Childress
Vardhana Innovative Presentation	The Vardhana Family	HS-CO-0005	Simulating peer-to-peer communication across ad-hoc networks	Josh Clark	Oregon Episcopal School	Catherine Molloseau
Army Outstanding High School Project	Army Research Office, U.S. Army	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
Army Awards for Scientific and Engineering Excellence	Army Research Office, U.S. Army	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human	Ajay Krishnan	Oregon Episcopal School	Peter Langley

			Speech Recognition and Transcription			
Army Awards for Scientific and Engineering Excellence	Army Research Office, U.S. Army	HS-EM-0017	Developing an Upper Extremity Terminal Device for Improved Mobility on Triathlon Bicycles	Nick Trese	Wilsonville High School	Jay Schauer
Army Awards for Scientific and Engineering Excellence	Army Research Office, U.S. Army	HS-ME-0020	Thermal response and corresponding efficacy of irradiance by laser therapies for the preferential eradication of Escherichia coli bacteria	Shana Feltham, Melanie Martinsen	West Linn High School	Nancy Monson
Army Awards for Scientific and Engineering Excellence	Army Research Office, U.S. Army	HS-EE-0030	Piezoelectric Energy Harvesting	Caroline Swanson, Diana Swanson	West Linn High School	Michael Glane
Outstanding Project in Materials Science	ASM International Foundation	HS-ET-0020	Comparing The Potential Of The Wooden Pellets As A New Biomass With Other Energy Fuels	Dongyun Lim	Oregon Episcopal School	Bevin Daglen
Outstanding Project Related to Energy Management and Sustainability	Association of Energy Engineers	HS-EE-0031	The Application of Rain Powered Water Wheel for Supplementing Residential Energy Generation	Arianna Hall, Zoe Maxwell, Clara Altemus	West Linn High School	Julie McDevitt
Outstanding Geoscience Project	Association Of Women Geoscientists	HS-VA-0050	The effect of ocean acidification on water quality and oyster shell growth in Netarts Bay	Samantha Boring	Tillamook High School	Clair Thomas
IEEE Special Awards	IEEE Oregon	HS-MA-0002	Efficient Characteristic 3 Galois Fields Operations for Elliptic Curve Cryptographic Applications	Vinay Iyengar	Oregon Episcopal School	Peter Langley
IEEE Special Awards	IEEE Oregon	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
IEEE Special Awards	IEEE Oregon	HS-PH-0060	Rapid Optimization of Quantum Dot Solar Cells Using a Novel Rating	Valerie Ding	Catlin Gabel School	Andrew Merrill

			System Integrating Quantum Mechanical Modeling and Solar Absorption Algorithm			
IEEE Special Awards	IEEE Oregon	HS-EE-0033	An Electronic Aid for the Visually Impaired	Connie Fan	Westview High School	Debbie Cooper
IEEE Special Awards	IEEE Oregon	HS-EM-0007	Low Temperature Behavior of Graphene-Based Laser Scribed DVD Supercapacitors	Meredith Loy	Oregon Episcopal School	Bevin Daglen
IEEE Special Awards	IEEE Oregon	HS-EE-0038	Improving Precision of Robot Control Using Kalman Filters	Alan Cheng	Southridge High School	Luo Cheng
Intel Excellence in Computer Science	Intel Corporation	HS-CO-0021	The Introduction of Higher-Order Encoding For Synthesizing Quantum Automata and an Analysis of Novel Encoding Mechanisms	Ankit Gupta, Kevin Wang	Westview High School	Debbie Cooper
Outstanding Chemistry Related Project	Iota Sigma Pi	HS-BC-0007	Analysis of Fel d 1 Allergen Transcripts in Felis catus Saliva Using Reverse Transcription quantitative Polymerase Chain Reaction (RT-qPCR)	Savannah Tobin	West Salem High School	Michael Lampert
Outstanding Aquatic Related Environmental Science Project	Lake Oswego Corporation	HS-AN-0016	Size Variation in a New Population of Oregon Spotted Frogs (Rana pretiosa)	Tiell Wolf	Bend Science Station	David Bermudez
Mu Alpha Theta Award	Mu Alpha Theta	HS-MA-0002	Efficient Characteristic 3 Galois Fields Operations for Elliptic Curve Cryptographic Applications	Vinay Iyengar	Oregon Episcopal School	Peter Langley
NOAA's Taking the Pulse of the Planet	National Oceanic and Atmospheric Administration	HS-VA-0050	The effect of ocean acidification on water quality and oyster shell growth in Netarts Bay	Samantha Boring	Tillamook High School	Clair Thomas
Innovative Engineering Award	National Society of Professional Engineers	HS-EM-0018	Continuous Real-Time Monitoring, Diagnosis, Alert of Transient Cardiac Abnormalities	Andrew Chen	Beaverton High School	Mike Blok

			Utilizing Electrocardiograph Circuit and Android-Based Analysis with Communication Through Wireless Networks			
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	HS-EM-0019	The Fabrication and Characterization of Top and Bottom Gated Carbon Nanotube Field Effect Transistors using Printed Electronics	Harsha Uppili	Oregon Episcopal School	Peter Langley
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	HS-ET-0008	Charge Storage Properties of Polyphenolic Byproduct Pigments from the BSF Composting Process	Richik Neogi	Merlo Station High School	Joel Laney
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	HS-EE-0045	Synthesis of Incompletely Specified Logic Functions With Memristor-Realized Material Implication Gates	Anika Raghuvanshi	Jesuit High School	Arvind Kumar
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	HS-EE-0033	An Electronic Aid for the Visually Impaired	Connie Fan	Westview High School	Debbie Cooper
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	HS-EM-0017	Developing an Upper Extremity Terminal Device for Improved Mobility on Triathlon Bicycles	Nick Trese	Wilsonville High School	Jay Schauer
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	HS-AN-0016	Size Variation in a New Population of Oregon Spotted Frogs ( <i>Rana pretiosa</i> )	Tlell Wolf	Bend Science Station	David Bermudez
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	HS-AN-0018	The Effect of Caffeine on <i>Culex</i> Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez

Award for Excellence in Scientific Research in Environmental Health	Oregon Environmental Health Association	HS-VM-0023	Sulfidation as a novel method for reducing the harmful effects of silver nanoparticle pollution	Anirudh Jain	Catlin Gabel School	Ashu Jain
Outstanding Natural Resources Science Project	Pacific NW Research Station, USDA Forest Service	HS-PL-0054	Isolation of Rhododendron Pathogens and Antagonistic Interactions Between Rhododendron Endophytes and Pathogenic Phytophthora Citricola: a New Method for Biological Control	Zaina Zaidan	Wilsonville High School	Jay Schauer
Outstanding Applied or Practical Chemistry Project by a Junior or Senior	Portland Industrial Chemists' Association/American Chemical Society	HS-VM-0022	The Novel Implementation of Biochar Cathodes in Microbial Fuel Cells - Phase I	Meghana Rao	Jesuit High School	Anita Rao
Sustainable Development Award	Ricoh Corporation	HS-EM-0004	Small Scale Hydroelectric Generator	Alexandra Boxberger	Oregon Episcopal School	Robert Orr
Outstanding Project in In Vitro Biology	Society for in Vitro Biology	HS-CM-0034	Abnormal Expression of Mitochondrial Proteins in Parkinson's Disease	Daniel Hong	West Campus, Oregon Health and Science University	P.Hemachandra Reddy
Outstanding Air Quality Project	Southwest Clean Air Agency	HS-VA-0040	Monitoring Vehicle Emissions on School Campus	Lara Rakocevic	Catlin Gabel School	Veronica Ledoux
TiE Oregon Outstanding Entrepreneurship Projects	TiE Oregon	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
TiE Oregon Outstanding Entrepreneurship Projects	TiE Oregon	HS-VM-0022	The Novel Implementation of Biochar Cathodes in Microbial Fuel Cells - Phase I	Meghana Rao	Jesuit High School	Anita Rao
TiE Oregon Outstanding Entrepreneurship Projects	TiE Oregon	HS-ME-0054	A Novel Therapy to Treat Lung Cancer: The Effect of Lynx1 on Lung Cancer	Adarsh Bhatt	Westview High School	Debbie Cooper

			Tumor Progression and Kinase Activity			
TiE Oregon Outstanding Entrepreneurship Projects	TiE Oregon	HS-VM-0023	Sulfidation as a novel method for reducing the harmful effects of silver nanoparticle pollution	Anirudh Jain	Catlin Gabel School	Ashu Jain
TiE Oregon Outstanding Entrepreneurship Projects	TiE Oregon	HS-ME-0079	A Novel Method For Therapeutically Reducing Muscle Tone in Spastic Muscles Through the Means of Tendon Vibration	Nikita Gaurav	Jesuit High School	Asha Gaurav
TiE Oregon Entrepreneurship Honorable Mention	TiE Oregon	HS-EM-0004	Small Scale Hydroelectric Generator	Alexandra Boxberger	Oregon Episcopal School	Robert Orr
TiE Oregon Entrepreneurship Honorable Mention	TiE Oregon	HS-CO-0015	Optimized Teacher Websites	Milo Webster	West Linn High School	Wind Lothamer
TiE Oregon Entrepreneurship Honorable Mention	TiE Oregon	HS-CO-0025	Using an iPhone App to Analyze Melanoma	Rushi Nagalla	Oregon Episcopal School	Ryan Holland
TiE Oregon Entrepreneurship Honorable Mention	TiE Oregon	HS-BC-0059	Synergistic Cytotoxic Efficiency of Novel and Traditional Anti-Cancer Drugs in a Parallel/Crossover Model	Mukund Raguram	Oregon Episcopal School	Ryan Holland
U.S. Air Force Outstanding Project	U.S. Air Force	HS-VM-0016	Optimizing the SODIS Method of Water Turbidity Reduction Using Different Filtration Materials	Hayley Jones, Clare McClellan	Oregon Episcopal School	Peter Langley
U.S. Air Force Outstanding Project	U.S. Air Force	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
U.S. Air Force Outstanding Project	U.S. Air Force	HS-EE-0033	An Electronic Aid for the Visually Impaired	Connie Fan	Westview High School	Debbie Cooper
Outstanding Use of the International System of Units	U.S. Metric Association	HS-AN-0018	The Effect of Caffeine on Culex Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez

Outstanding Use of the International System of Units	U.S. Metric Association	HS-VM-0022	The Novel Implementation of Biochar Cathodes in Microbial Fuel Cells - Phase I	Meghana Rao	Jesuit High School	Anita Rao
Outstanding Use of the International System of Units	U.S. Metric Association	HS-ME-0042	Cancerous and Non-Cancerous Mortality Rates of Cells when Exposed to Iron Oxide Nanoparticle Hyperthermia	Peter Graham	Oregon Episcopal School	Bevin Daglen
Project Best Illustrating Surgeon General's Health Recommendations	U.S. Public Health Service	HS-CO-0030	MyInuslin 2.0: Integrating a Glucomander and Creating a User Interface to Increase Accessibility in the Hospital Environment	Annelise Cummings	Cleveland High School	Ronda Royal, Ph.D.
U.S. Regional Stockholm Junior Water Prize	Water Environment Federation	HS-VM-0023	Sulfidation as a novel method for reducing the harmful effects of silver nanoparticle pollution	Anirudh Jain	Catlin Gabel School	Ashu Jain
Outstanding Project by an 11th Grade Student	Yale University Science and Engineering Association	HS-EM-0019	The Fabrication and Characterization of Top and Bottom Gated Carbon Nanotube Field Effect Transistors using Printed Electronics	Harsha Uppili	Oregon Episcopal School	Peter Langley

## Category Awards

Category	Place	Exhibit No	Title	Student List	Organization	Adult Sponsor
Animal Sciences	First Place	HS-AN-0018	The Effect of Caffeine on Culex Mosquito Survivorship	Nico Wolnick	Bend Science Station	David Bermudez
Animal Sciences	Second Place	HS-AN-0012	Darkling Beetle Neurological Response to Various Olfactory Stimuli	Devon Francis	West Salem High School	Michael Lampert
Animal Sciences	Third Place	HS-AN-0092	Effect of RNA Interference and Temperature on the Behavior of Caenorhabditis elegans	Janine Kritschgau	Oregon Episcopal School	Peter Langley
Behavioral and Social Science	First Place	HS-BE-0017	The Effects of Age, Gender, and Media Exposure on Emotion Recognition and Perception	Alexandra Ulmer, Sarayu Caulfield	Oregon Episcopal School	Ryan Holland



Behavioral and Social Science	Second Place	HS-BE-0035	Evaluating a Possible Association Between Deja Vu Frequency and Memory Performance to Explain Deja Vu	Duncan Prince, Caleb Archuleta	West Linn High School	Wind Lothamer
Behavioral and Social Science	Third Place	HS-BE-0040	Handedness and its Relation to Language Disorders	Krista Wurscher	West Linn High School	Jonathan Davies
Biochemistry	First Place	HS-BC-0007	Analysis of Fel d 1 Allergen Transcripts in Felis catus Saliva Using Reverse Transcription quantitative Polymerase Chain Reaction (RT-qPCR)	Savannah Tobin	West Salem High School	Michael Lampert
Biochemistry	Second Place	HS-BC-0059	Synergistic Cytotoxic Efficiency of Novel and Traditional Anti-Cancer Drugs in a Parallel/Crossover Model	Mukund Raguram	Oregon Episcopal School	Ryan Holland
Biochemistry	Third Place	HS-BC-0005	The Effect of the Antioxidant Vitamin C on the Iron Chelating Properties of Deferiprone	Olivia Langley, Holly Langley	Oregon Episcopal School	Bevin Daglen
Cellular and Molecular Biology	First Place	HS-CM-0025	The Role of the AMP-Activated Protein Kinase (AMPK) in Neurodegeneration in Drosophila melanogaster	Kyra Patton	Sunset High School	Show-Ling Shyng
Cellular and Molecular Biology	Second Place	HS-CM-0016	Periglomerular Cell Architecture and Olfaction	Valerie Balog	Catlin Gabel School	Veronica Ledoux
Cellular and Molecular Biology	Third Place	HS-CM-0008	Ex-Vivo Effects of Essiac, Fluorouracil, and Cyclophosphamide on Melanoma and Hepatocyte Cell Growth	Natalie Lerner	Oregon Episcopal School	Peter Langley
Chemistry	First Place	HS-CH-0001	Cadmium-Selenide based dye sensitized solar cells	Zachary Winger	Merlo Station High School	Joel Laney
Chemistry	Second Place	HS-CH-0011	Analyzing the Effects of Silver Foil Inclusion in a Reactive Glass	Kristin Grant	Oregon Episcopal School	Ryan Holland
Chemistry	Third Place	HS-CH-0050	The Effect of Solubility on Electric Current	Kalianne Durfee	Century High School	Miles Hudson
Computer Science	First Place	HS-CO-0021	The Introduction of Higher-Order Encoding For Synthesizing Quantum Automata and an Analysis of Novel Encoding Mechanisms	Ankit Gupta, Kevin Wang	Westview High School	Debbie Cooper
Computer Science	Second Place	HS-CO-0007	A Novel Computerized Lip Reading System for Automatic Human Speech Recognition and Transcription	Ajay Krishnan	Oregon Episcopal School	Peter Langley
Computer Science	Third Place	HS-CO-0020	Predicting the Progression of Parkinson's Disease Utilizing	Varun Sah	Jesuit High School	Anurag Sah

			Machine Learning Algorithms and Vocal Metrics			
Earth Science	First Place	HS-EA-0001	Determining Micro Climate Change in John Day Using Fossils Of Sequoia and Meta Sequoia Leaves	Jack Rottiers	Oregon Episcopal School	Peter Langley
Earth Science	Second Place	HS-EA-0006	Assessing the variation in Douglas Fir ( <i>Pseudotsuga menziesii</i> ) tree growth relative to proximity to of an active road	Kenia Fuentes, Katya Campos	Wilsonville High School	Jay Schauer
Energy and Transportation	First Place	HS-ET-0003	An Investigation of Gas Diffusion Layers and their Effects on the Performance of PEM Fuel Cells	Vijay Edupuganti	Oregon Episcopal School	Peter Langley
Energy and Transportation	Second Place	HS-ET-0008	Charge Storage Properties of Polyphenolic Byproduct Pigments from the BSF Composting Process	Richik Neogi	Merlo Station High School	Joel Laney
Energy and Transportation	Third Place	HS-ET-0031	Heating with Compost	Grace Ray	Gresham High School	Stephen Scannell
Engineering: Electrical and Mechanical	First Place	HS-EE-0033	An Electronic Aid for the Visually Impaired	Connie Fan	Westview High School	Debbie Cooper
Engineering: Electrical and Mechanical	Second Place	HS-EE-0038	Improving Precision of Robot Control Using Kalman Filters	Alan Cheng	Southridge High School	Luo Cheng
Engineering: Electrical and Mechanical	Third Place	HS-EE-0045	Synthesis of Incompletely Specified Logic Functions With Memristor-Realized Material Implication Gates	Anika Raghuvanshi	Jesuit High School	Arvind Kumar
Engineering: Materials and Bioengineering	First Place	HS-EM-0019	The Fabrication and Characterization of Top and Bottom Gated Carbon Nanotube Field Effect Transistors using Printed Electronics	Harsha Uppili	Oregon Episcopal School	Peter Langley
Engineering: Materials and Bioengineering	Second Place	HS-EM-0018	Continuous Real-Time Monitoring, Diagnosis, Alert of Transient Cardiac Abnormalities Utilizing Electrocardiograph Circuit and Android-Based Analysis with Communication Through Wireless Networks	Andrew Chen	Beaverton High School	Mike Blok
Engineering: Materials and Bioengineering	Third Place	HS-EM-0007	Low Temperature Behavior of Graphene-Based Laser Scribed DVD Supercapacitors	Meredith Loy	Oregon Episcopal School	Bevin Daglen
Environmental Analysis and Effects	First Place	HS-VA-0050	The effect of ocean acidification on water quality and oyster shell growth in Netarts Bay	Samantha Boring	Tillamook High School	Clair Thomas
Environmental Analysis and Effects	Second Place	HS-VA-0040	Monitoring Vehicle Emissions on School Campus	Lara Rakocevic	Catlin Gabel School	Veronica Ledoux

Environmental Analysis and Effects	Third Place	HS-VA-0023	The effect of Dispersant on Sea Urchin Eggs	Shannon Brennan	Oregon Episcopal School	Kristen Myers
Environmental Management	First Place	HS-VM-0022	The Novel Implementation of Biochar Cathodes in Microbial Fuel Cells - Phase I	Meghana Rao	Jesuit High School	Anita Rao
Environmental Management	Second Place	HS-VM-0023	Sulfidation as a novel method for reducing the harmful effects of silver nanoparticle pollution	Anirudh Jain	Catlin Gabel School	Ashu Jain
Environmental Management	Third Place	HS-VM-0003	Biodegradation of Aromatic Hydrocarbon Crude oil by Pleurotus ostreatus Inoculated Mycobooms	Lauren Gabrio, Rebecca Cleveland-Stout	Oregon Episcopal School	Peter Langley
Mathematical Sciences	First Place	HS-MA-0002	Efficient Characteristic 3 Galois Fields Operations for Elliptic Curve Cryptographic Applications	Vinay Iyengar	Oregon Episcopal School	Peter Langley
Mathematical Sciences	Second Place	HS-MA-0004	Analysis of the Erdős Distance Problem in Modular Elliptic Space	Richard Sala, Markus Woltjer	Wilsonville High School	Jay Schauer
Mathematical Sciences	Third Place	HS-MA-0007	Matching Preclusion and Conditional Matching Preclusion Problems for the Generalized Petersen Graph $P(n,k)$	Matthew Jagielski	International School of Beaverton	Caroline Jacobs
Medicine and Health Sciences	First Place	HS-ME-0074	Alpha-Alumina Nanoparticles Activate the Nalp3 Inflammasome and Induce IL-1b Signaling for Therapeutic Cancer Vaccination	Amber Tang	Lakeridge High School	Ron Tang
Medicine and Health Sciences	Second Place	HS-ME-0072	Define the mechanism of aspirin in cancer prevention	Andrew Liu	Lakeridge High School	Jesse Elizondo
Medicine and Health Sciences	Third Place	HS-ME-0054	A Novel Therapy to Treat Lung Cancer: The Effect of Lynx1 on Lung Cancer Tumor Progression and Kinase Activity	Adarsh Bhatt	Westview High School	Debbie Cooper
Microbiology	First Place	HS-MI-0002	The Ecology of Antibiotic Production in Streptomyces griesus	Kate Ratliff, Kai Krokum	Merlo Station High School	Joel Laney
Microbiology	Second Place	HS-MI-0042	The effects of a more acidic environment on the bioluminescent bacterial marine microbe Vibrio fisheri.	Dylan Martins	West Linn High School	James Hartmann
Microbiology	Third Place	HS-MI-0052	Males vs. Females: Which Teachers Have the Most Bacteria on Their Keyboards?	Sarah Phan	Franklin High School	Mai Duong
Physics and Astronomy	First Place	HS-PH-0060	Rapid Optimization of Quantum Dot Solar Cells Using a Novel Rating System Integrating Quantum Mechanical Modeling and Solar Absorption Algorithm	Valerie Ding	Catlin Gabel School	Andrew Merrill

Physics and Astronomy	Second Place	HS-PH-0037	Determining Exoplanet Molecular Composition and Orbital Parameters with Transit Photometry	John Connall	Oregon Episcopal School	Peter Langley
Physics and Astronomy	Third Place	HS-PH-0015	The Measurement of Periodicity in Variable Stars to Determine a Double/Triple Mode Pulsator	Andrea Boorse, Grace Hashiguchi, Sophie Louaillier	Oregon Episcopal School	Peter Langley
Physics and Astronomy	Third Place Tie	HS-PH-0051	Investigating Laser Refraction in Different Solutes and Concentration	Henry Li	West Linn High School	Shawn McDevitt
Plant Sciences	First Place	HS-PL-0054	Isolation of Rhododendron Pathogens and Antagonistic Interactions Between Rhododendron Endophytes and Pathogenic Phytophthora Citricola: a New Method for Biological Control	Zaina Zaidan	Wilsonville High School	Jay Schauer
Plant Sciences	Second Place	HS-PL-0032	Identification of Trichoderma spp. from Commercial Soils and Fungicides and Its Potential as a Biocontrol Agent for Pythium ulitum	Kim Tran	West Linn High School	Nancy Monson
Plant Sciences	Third Place	HS-PL-0036	The effect of rhododendron macrophyllum tea on the presence of urushiol	Kelsey Underwood	Wilsonville High School	Jay Schauer