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And many more who choose to remain anonymous and at Friend levels



Northwest Science Expo Award Ceremony

April 5, 2024
High School

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the left and right sides of the page, framing the central text. The overall aesthetic is clean and modern.

Category Awards

Animal Sciences

- ▶ sponsored by: *Columbia-Willamette Chapter of Sigma Xi*
 - ▶ 3rd : Ava Brill : West Linn High School
 - ▶ 2nd : Sarah Sanborn, Colin Bowyer : West Linn High School
 - ▶ 1st : Abbie Jalili, Vanessa Partida, Samuel Koehler : West Linn High School

Behavioral and Social Science

- ▶ sponsored by: *OHSU*
 - ▶ HM : Shriya Marla : Jesuit High School
 - ▶ 3rd : Grace Boyer, Lily Walsh : West Linn High School
 - ▶ 2nd : Shreya Ragade, Diya Shah : Westview High School
 - ▶ 1st : Annamika Konkola : West Linn High School

Biochemistry

- ▶ sponsored by: *Catalyst Education and Career Pathways*
 - ▶ HM : Kate Kurata : Wilsonville High School
 - ▶ 3rd : Athena Hsu-Chen : Oregon Episcopal School
 - ▶ 2nd : Ashvika Singhal : Sunset High School
 - ▶ 1st : Shriya Pai : Jesuit High School

Cellular and Molecular Biology

- ▶ sponsored by: *Columbia-Willamette Chapter of Sigma Xi*
 - ▶ HM : Julia Chen, Adrianna Camara : Oregon Episcopal School
 - ▶ 3rd : Rowan Jamieson, Ennio Geniblazo, Benjamin Wrinn : Oregon Episcopal School
 - ▶ 2nd : Aditya Malhotra : Lake Oswego High School
 - ▶ 1st : Nidhi Yadalam : Jesuit High School

Chemistry

- ▶ sponsored by: *The Bilow Group*
 - ▶ HM : Julia Chun : Catlin Gabel School
 - ▶ 3rd : Autri Das : Sunset High School
 - ▶ 2nd : Shreemoyee Saha : Sunset High School
 - ▶ 1st : Curran Jacobus : Bend Senior High

Computer Science and Robotics

- ▶ sponsored by: *Ralph M Cohen Consultancy*
 - ▶ HM : Madeline Santoso, Kaya Hald : West Linn High School
 - ▶ HM : Anshu Mukherjee : West Linn High School
 - ▶ HM : RuiYang Gong : Oregon Episcopal School
 - ▶ 3rd : Jared Lim, Ethan Snow : Liberty High School
 - ▶ 2nd : Taaha Khan : Sunset High School
 - ▶ 1st : Ashank Shah : Sunset High School

Energy and Environmental Engineering

- ▶ sponsored by: *NorthWest Engineering Service, Inc*
 - ▶ 3rd : Aasha Patel : Wilsonville High School
 - ▶ 2nd : Artem Arefev : Beaverton Academy of Science and Engineering
 - ▶ 1st : Siddharth D'costa, Arjun Malpani : Jesuit High School

Engineering: Bioengineering and Materials

- ▶ sponsored by: *absci*
 - ▶ HM : Samir Rampurawala : Beaverton Academy of Science and Engineering
 - ▶ 3rd : Suhaani Garg : West Linn High School
 - ▶ 2nd : Liam Aranda-Michel : Lake Oswego High School
 - ▶ 1st : Akash Pai : Sunset High School

Engineering: Electrical and Mechanical

- ▶ sponsored by: *Ralph M Cohen Consultancy*
 - ▶ HM : Nathan Chen : Catlin Gabel School
 - ▶ 3rd : Daniel Mamchik : Jesuit High School
 - ▶ 2nd : Nikaansh Singh : Sunset High School
 - ▶ 1st : Ashton Vasquez, Cole Pickett : Lincoln High School

Environmental and Earth Sciences

- ▶ **sponsored by: Oregon Forest Resources Institute**
 - ▶ **HM : Alaska Rosenfeld : International School of Beaverton**
 - ▶ **HM : Sohan Govindaraju : Jesuit High School**
 - ▶ **3rd : Brandon Garcia Huerta : Bend Science Station**
 - ▶ **2nd : Jiaming Zhang : Oregon Episcopal School**
 - ▶ **1st : Paul Liu, Sujan Shadrak : Wilsonville High School**

Mathematical Sciences

- ▶ sponsored by: *Stephen & Esther Portnoy*
 - ▶ HM : Katrina Janowski : International School of Beaverton
 - ▶ 3rd : Sanay Sehgal : Beaverton Academy of Science and Engineering
 - ▶ 2nd : Arjun Agarwal : Jesuit High School
 - ▶ 1st : Anay Aggarwal, Manu Isaacs : Jesuit High School

Medicine and Health Sciences

- ▶ sponsored by: *OHSU*
 - ▶ HM : Isabella Buzzelli : West Linn High School
 - ▶ 3rd : Tanay Chitlur : Westview High School
 - ▶ 2nd : Anvi Kalidindi : Jesuit High School
 - ▶ 1st : Akash Ragam : Jesuit High School

Microbiology

- ▶ sponsored by: *Dr. Larry Sherman*
 - ▶ HM : Megan Whitt : Wilsonville High School
 - ▶ 3rd : Niyati Bhaskar : Wilsonville High School
 - ▶ 2nd : Zachary Santoso : West Linn High School
 - ▶ 1st : Jasper Gu : Sunset High School

Physics and Astronomy

- ▶ sponsored by: *Eclipse Technologies*
 - ▶ HM : Pranavi Vedantam : International School of Beaverton
 - ▶ 3rd : Akhil Duthaluri : Sunset High School
 - ▶ 2nd : Lawrence Zhou, Dhruv Singh : Westview High School
 - ▶ 1st : Muen Teng : Lake Oswego High School



Plant Sciences

- ▶ sponsored by: *Oregon Forest Resources Institute*
 - ▶ 3rd : Anisha Dhoot : Westview High School
 - ▶ 2nd : Angela Jismon : International School of Beaverton
 - ▶ 1st : Samantha Blume, Haley Potts : Corbett High School





Special awards

Outstanding Aquatic Related Environmental Science Project

- ▶ **sponsored by: Lake Oswego Corporation**
 - ▶ **Niyati Bhaskar : Wilsonville High School**
 - ▶ *for... "Rising from the Rhizosphere"*
 - ▶ **Sydney Taylor : West Linn High School**
 - ▶ *for... "Analyzing "Reef Safe" Sunscreen - The Impact of Zinc Oxide Particle Size on Chlorophyll A and B Zoonantheae"*
 - ▶ **Anisha Dhoot : Westview High School**
 - ▶ *for... "Using Kelp Seaweeds to Improve Food Security and Fight Climate Change"*

NOAA's Taking the Pulse of the Planet

- ▶ **sponsored by: National Oceanic and Atmospheric Administration**
 - ▶ **Shreemoyee Saha : Sunset High School**
 - ▶ *for... "Cost-efficient Novel Aminosilicone Environment Simulators via Amino-acid Immersed SiO₂ Beads for CO₂ Sequestration"*
 - ▶ **Autri Das : Sunset High School**
 - ▶ *for... "Towards a Closed Carbon Cycle: Novel Organic Microparticles & Encapsulants for Pressure-Induced Capture and Conversion to Value Added Products"*

Outstanding Natural Resources Science Project

- ▶ **sponsored by: Pacific NW Research Station, USDA Forest Service**
 - ▶ **Sohan Govindaraju : Jesuit High School**
 - ▶ *for... "Wildfire and Social Equity Based Risk Mitigation for Respiratory Health Vulnerability"*

Outstanding Project in In Vitro Biology

- ▶ **sponsored by: Society for in Vitro Biology**
 - ▶ **Megan Whitt : Wilsonville High School**
 - ▶ *for... "Bioinspired Materials to Reduce Infective Endocarditis in Artificial Heart Valves"*

Biophysics Award

- ▶ **sponsored by: Biophysical Society**
 - ▶ **Aditya Malhotra : Lake Oswego High School**
 - ▶ *for... "ExoTic & Raman spectroscopy: A two step method for early cancer detection"*

Outstanding Project by an 11th Grade Student

- ▶ **sponsored by: Yale Science and Engineering Association, Inc.**
 - ▶ **Ashank Shah : Sunset High School**
 - ▶ *for... "Generative Machine Learning-Based Adversarial and Diffusive Data Augmentation Techniques for Enhanced Squamous Cell Carcinoma Histopathological Scan Diagnosis"*

Ricoh Sustainable Development Award

- ▶ **sponsored by: Ricoh Corporation**
 - ▶ **Katie Gragg : Catlin Gabel School**
 - ▶ *for... "Effect of light exposure interval variations on copper accumulation in brassica juncea hydroponic growth solutions"*
 - ▶ **Siddharth D'costa, Arjun Malpani : Jesuit High School**
 - ▶ *for... "Synthesis and Characterization of Property-Optimized Ionic Liquid for Post-Combustion Carbon Capture Discovered via Novel Deep Learning Model"*

Science Champion Award

- ▶ **sponsored by: U.S. Agency for International Development**
 - ▶ **Katie Gragg : Catlin Gabel School**
 - ▶ *for... "Effect of light exposure interval variations on copper accumulation in brassica juncea hydroponic growth solutions"*
 - ▶ **Grayson Zhang, Sabrina Zhang : West Linn High School**
 - ▶ *for... "Low-Cost, 3D-Printed, Universal-Fit, Bioprosthetic Heart Valve for Patients in Developing Countries"*

Outstanding Chemistry Project

- ▶ **sponsored by: American Chemical Society, Portland Section**
 - ▶ **Ashvika Singhal : Sunset High School**
 - ▶ *for... "Development of Novel Fluorescent Probes Targeting Circulating Hybrid Cells for Non-Invasive Early Cancer Detection"*

Outstanding Applied or Practical Chemistry Project by a Junior or Senior

- ▶ **sponsored by: American Chemical Society, Portland Section**
 - ▶ **Addison Arakelian : Wilsonville High School**
 - ▶ *for... "Carbon Dioxide Sequestering Microalgae Biochamber"*

Tom Owen Honorable Mention

- ▶ **sponsored by: Oregon Chapter of the American Statistical Association**
 - ▶ **Suhani Agarwal : International School of Beaverton**
 - ▶ *for... "The Effect of Increasing Ocean Temperatures on The Strength of Seashells"*
 - ▶ **Pranavi Vedantam : International School of Beaverton**
 - ▶ *for... "The Effect of Increased Interleaved Pages on the Sustainable Weight"*
 - ▶ **Megan Whitt : Wilsonville High School**
 - ▶ *for... "Bioinspired Materials to Reduce Infective Endocarditis in Artificial Heart Valves"*
 - ▶ **Brandon Garcia Huerta : Bend Science Station**
 - ▶ *for... "An Exploration of Radon levels and bedrock type in Bend, Oregon"*

Tom Owen Award for Excellence in Statistics

- ▶ **sponsored by: Oregon Chapter of the American Statistical Association**
 - ▶ **Anjali Chouhan : International School of Beaverton**
 - ▶ *for... "The effect of recreational activities on reaction time"*
 - ▶ **Anshu Mukherjee : West Linn High School**
 - ▶ *for... "Symptomatic IBD Patient Identification Using Clinical and Simulated Wearable Device Data"*
 - ▶ **Shriya Pai : Jesuit High School**
 - ▶ *for... "Identification of Novel Target Genes and ML-based Drug Repurposing and Discovery for Alzheimer's Disease in the Presence of Metabolic Comorbidities"*

Outstanding Use of the International System of Units

- ▶ **sponsored by: U.S. Metric Association**
 - ▶ **Shreemoyee Saha : Sunset High School**
 - ▶ *for... "Cost-efficient Novel Aminosilicone Environment Simulators via Amino-acid Immersed SiO₂ Beads for CO₂ Sequestration"*
 - ▶ **Nikaansh Singh : Sunset High School**
 - ▶ *for... "Improving the Accuracy of Apogee by Utilising Precision Altitude Control System to Modulate the Rockets Dynamic Form Factor"*

Outstanding Research in Psychology

- ▶ **sponsored by: American Psychological Association**
 - ▶ **Anjali Chouhan : International School of Beaverton**
 - ▶ *for... "The effect of recreational activities on reaction time"*

Best Science of Music Project

- ▶ **sponsored by: Dr. Larry Sherman**
 - ▶ **Kevin Lin : West Linn High School**
 - ▶ *for... "AI Music Teacher"*



Naval Excellence in Science and Engineering Award

- ▶ **sponsored by: Office of Naval Research, US Navy and Marine Corps**
 - ▶ **Nikaansh Singh : Sunset High School**
 - ▶ *for... "Improving the Accuracy of Apogee by Utilising Precision Altitude Control System to Modulate the Rockets Dynamic Form Factor"*
 - ▶ **Muen Teng : Lake Oswego High School**
 - ▶ *for... "AI Enhanced Optical Scanning Probe Microscopy – Restoration Transformer Artificial Algorithm for Advanced Image Analysis"*
 - ▶ **Jiaming Zhang : Oregon Episcopal School**
 - ▶ *for... "EcoProbe: A Novel Machine Learning Model for Predicting Water Chemical Values with Satellite Imagery and Convolutional Neural Network (CNN) through Advanced Multi-Regression Modeling of Wetland Ecosystem Health."*
 - ▶ **Kevin Boriboonsomsin : Jesuit High School**
 - ▶ *for... "Ocean Depth Image Resolution Enhancement Using Artificial Intelligence"*

U.S. Air Force Outstanding Project

- ▶ **sponsored by: U.S. Air Force**

- ▶ **Liam Ottum, Suhaan Shettigar : Wilsonville High School**

- ▶ *for... "Developing an Environmentally Sustainable Flow Battery Utilizing Organic Compounds: Integrating Hydrated Polymer Salt Electrolytes and Bio-Mass Derived Electrodes."*

- ▶ **Jared Lim, Ethan Snow : Liberty High School**

- ▶ *for... "Revolutionizing Language Learning with Connexelerator: An AI-Powered Approach"*

IEEE Special Award

- ▶ **sponsored by: IEEE Oregon**
 - ▶ **Nikaansh Singh : Sunset High School**
 - ▶ *for... "Improving the Accuracy of Apogee by Utilising Precision Altitude Control System to Modulate the Rockets Dynamic Form Factor"*

Women in Engineering

- ▶ **sponsored by: IEEE Oregon**
 - ▶ **Sadie Young : Oregon Episcopal School**
 - ▶ *for... "A Plant-Based Exploration of the Unlimited Natural Energy at our Fingertips Feet"*

Thermo Fisher Advancing Equity through Innovation

- ▶ **sponsored by: Thermo Fisher Scientific**
 - ▶ **Arush Goswami : Wilsonville High School**
 - ▶ *for... "Development of a Novel Low-Cost Hand Exoskeleton Device to Improve Stroke Rehabilitation Using Brain-Computer Interface"*
 - ▶ **Sai Kalavai, Aarush Palve : Wilsonville High School**
 - ▶ *for... "Motor Rehabilitation in Neuro-oncological entities: AI-Driven Linear Regression Analysis for Predicting Tumor Growth and Enhancing Mobility through EEG-Integrated Prosthetics"*
 - ▶ **Arjun Agarwal : Jesuit High School**
 - ▶ *for... "A Novel Fair Clustering Algorithm To Eliminate Bias In Machine Learning"*

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Very special awards

OSU General Scholarship

- ▶ **sponsored by: Oregon State University**
 - ▶ **Sydney Taylor : West Linn High School**
 - ▶ *for... "Analyzing "Reef Safe" Sunscreen - The Impact of Zinc Oxide Particle Size on Chlorophyll A and B Zooxanthellae"*
 - ▶ **Lily Walsh : West Linn High School**
 - ▶ *for... "ChatGPT in the English Classroom"*
 - ▶ **Rubi Martin : Wilsonville High School**
 - ▶ *for... "Intertidal Troubles: how tourism affects mussels on the Oregon Coast"*

Portland State University Scholarships

- ▶ **sponsored by: Portland State University**
 - ▶ **Akash Pai : Sunset High School**
 - ▶ *for... "Electrogastrography and Personalized Transcutaneous Electrical Nerve Stimulation for Noninvasive, Low-Cost Diagnosis and Treatment of Gastroparesis"*
 - ▶ **Ashank Shah : Sunset High School**
 - ▶ *for... "Generative Machine Learning-Based Adversarial and Diffusive Data Augmentation Techniques for Enhanced Squamous Cell Carcinoma Histopathological Scan Diagnosis"*
 - ▶ **Wijdan Eshtewi, Faiza Bin Hammam, Omnia Elzain : Oregon Islamic Academy**
 - ▶ *for... "The Zarina Cane"*

University of Oregon Scholarships

- ▶ **sponsored by: University of Oregon**
 - ▶ **Grace Boyer : West Linn High School**
 - ▶ *for... "ChatGPT in the English Classroom"*
 - ▶ **Zachary Santoso : West Linn High School**
 - ▶ *for... "Mediterranean Oak Borer Antifungal Solutions"*
 - ▶ **Evie Chan : Oregon Episcopal School**
 - ▶ *for... "The Impact of Foot Position on the Acceleration of a Pirouette"*

Regeneron ISEF Finalist - Physical Science

- ▶ **sponsored by: Northwest Science Expo**
 - ▶ **Anay Aggarwal, Manu Isaacs : Jesuit High School**
 - ▶ *for... "An Elementary Method For Fast Modular Exponentiation With Factored Modulus"*
 - ▶ **Ashank Shah : Sunset High School**
 - ▶ *for... "Generative Machine Learning-Based Adversarial and Diffusive Data Augmentation Techniques for Enhanced Squamous Cell Carcinoma Histopathological Scan Diagnosis"*
 - ▶ **Siddharth D'costa, Arjun Malpani : Jesuit High School**
 - ▶ *for... "Synthesis and Characterization of Property-Optimized Ionic Liquid for Post-Combustion Carbon Capture Discovered via Novel Deep Learning Model"*

Regeneron ISEF Finalist - Life Science

- ▶ **sponsored by: Northwest Science Expo**

- ▶ **Annamika Konkola : West Linn High School**

- ▶ *for... "Beyond the Classroom: Tracing Justice in Education Through Student Discipline and School Climate"*

- ▶ **Akash Ragam : Jesuit High School**

- ▶ *for... "FoGDTECT: A Novel Non-Invasive Freezing of Gait (FoG) Monitoring Solution Integrating Machine Learning and Mobile App Accelerometer Data"*

- ▶ **Jasper Gu : Sunset High School**

- ▶ *for... "Linear Autoinducing Peptides: An Advanced Method to Inhibit Quorum Sensing in Staphylococcus aureus"*

Regeneron Biomedical Science Award

- ▶ **sponsored by: Regeneron**
 - ▶ **Akash Ragam : Jesuit High School**
 - ▶ *for... "FoGDTECT: A Novel Non-Invasive Freezing of Gait (FoG) Monitoring Solution Integrating Machine Learning and Mobile App Accelerometer Data"*

Best of Fair-Physical

- ▶ **sponsored by: Students of Dr. Bill Lamb**
 - ▶ **Akash Pai : Sunset High School**
 - ▶ *for... "Electrogastrography and Personalized Transcutaneous Electrical Nerve Stimulation for Noninvasive, Low-Cost Diagnosis and Treatment of Gastroparesis"*

Best of Fair-Life

- ▶ **sponsored by: Students of Dr. Bill Lamb**
 - ▶ **Jasper Gu : Sunset High School**
 - ▶ *for... "Linear Autoinducing Peptides: An Advanced Method to Inhibit Quorum Sensing in Staphylococcus aureus"*