

The 2021 Hawaii State Science & Engineering Fair Special Awards

Alexander & Baldwin

SR Division

\$500 Cash Award - Ashlynn Carney, Mililani High School

“Investigating the Effects of Salinity on the Invasive Plant Species *Ipomoea aquatica* through Growth Carbon Sequestration and Histology” (Project ID: 21-EAEV-0099)

\$500 Cash Award - Aidan Gregersen and Joe Puplava, Kauai High School

“An Analysis of Sea Level Rise Predictions and Relations to Density and Polar Ice Cap Volume Fluctuations” (Project ID: 21-EAEV-0572)

JR Division

\$250 Cash Award - Kaiden Yoshikawa, Iao Intermediate School

“Are you Drinking Plastic?” (Project ID: 21-EAEV-6059)

\$250 Cash Award - John Cudjoe, Washington Intermediate School

“Hydro Power” (Project ID: 21-EGSD-6377)

American Chemical Society, Hawaii Chapter

SR Division

4th Exemplary Chemistry Project, \$25 Cash Award/Certificate – Jeyan Francis Cornelio, Waipahu High

“Synthesizing c-Si₃N₄ from Extreme Temperature and Pressure Conditions” (Project ID: 21-MATS-0164)

3rd Exemplary Chemistry Project, \$25 Cash Award/Certificate - Kelly Mukai, Iolani School

“Engineering an Invasive Algae and Taro Based Bioplastic” (Project ID: 21-MATS-0069)

2nd Exemplary Chemistry Project, \$25 Cash Award/Certificate - Sean Cottrell, Iolani School

“Investigating the effects of supplements on diversity of peripheral TCR-beta CDR3 repertoire between teenage brothers” (Project ID: 21-BMED-0492)

1st Exemplary Chemistry Project, \$25 Cash Award/Certificate – Jacqueline Kirkpatrick, Mililani High

“The Extraction of Aquatic Polypropylene, Nylon, and Petrochemical MicroPlastics Using Ferrofluid” (Project ID: 21-CHEM-0586)

JR Division

3rd Exemplary Chemistry Project, \$25 each Cash Award/Certificate - Hailey Brooke Higashi & Charley Jones, Maunawili Elementary; “Moisturizing madness” (Project ID: 21-CHEM-6178)

2nd Exemplary Chemistry Project, \$50 Cash Award/Certificate - Jethro Bumanglag, Calvary Chapel Christian School; “Why Doesn't Dairy Love Me?” (Project ID: 21-BCHM-6193)

1st Exemplary Chemistry Project, \$100each Cash Award/Certificate - Michael Hui & Parker Smith, Kaimuki Middle School; “Gas Stove Catalytic Converter” (Project ID: 21-CHEM-5616)

Best in SR Division

***3rd Best Chemistry Project, \$25 Cash Award/Certificate - Emmaleigh Shinno, Kalaheo High School
“Removing Pesticides Found in Fruits and Vegetables” (Project ID: 21-CHEM-0273)***

***2nd Best Chemistry Project, \$50 Cash Award/Certificate – Maya Oishi, Hilo High School
“Investigating the Chemical Components of Black and Red Turmeric” (Project ID: 21-BCHM-0411)***

***1st Best Chemistry Project, \$100 Cash Award/Certificate – Alanna Sun, Waiakea High School
“Column Purification of Hawaiian Grown Mamaki Tea Extracts and Investigation of Associated Compound Stability in Simulated Intestinal and Gastric Fluids“ (Project ID: 21-CHEM-0315)***

Teacher Award in Chemistry, \$100 Cash Award – Whitney Aragaki, Waiakea High School (for Project: 21-CHEM-0315)

American Public Works – Hawaii Chapter

JR Division

***\$50 Cash Award – Callie McKinney, Niu Valley Middle
“Shake, Rattle, or Break” (Project ID: 21-ENMC-5468)***

***\$50 Cash Award – Teilyn Young & Lennon Nakada, Kaneohe Elementary
“Ki-Shredder” (Project ID: 21-ENMC-6480)***

***\$50 Cash Award – Ella Nishida, and Kenzie Nakamura, Kaimuki Middle
“BlueLight Begone” (Project ID: 21-ENBM-6157)***

SR Division

***\$50 Cash Award - Antonio Velasco & Lauren Suzuki, Waipahu High School
“Improving Autonomous Underwater Vehicle (AUV) Glider Efficiency: Wingspan” (Project ID: 21-ENMC-0542)***

***\$50 Cash Award – Braden Unten, Kailua High School
“Limiting Runoff Pollution from a Driveway” (Project ID: 21-ENMC-0350)***

***\$50 Cash Award – Jacob Reece, Kauai High School
“Hydro-Powered Archimedes Screw” (Project ID: 21-ENMC-0381)***

***\$50 Cash Award – Dalten Morales-Pang, and Cristian Milanés, Moanalua High School
“Combining Technologies to Provide a More Preferable, Functional, and Accessible Electronic Travel Aid for the Visually Impaired” (Project ID: 21-ENMC-0589)***

American Water Works Association – Hawaii Chapter

***\$250 Cash Award, 1st place winner - Mikayla Caraang, Waipahu High School
“Cleaner Water, Less Plastic: Universal Water Filters On The Go” (Project ID: 21-ENEV-0001)***

\$250 Cash Award, 1st place winner – Kai Roshto, Mililani High School “Using Fruit Remnants as Biofilters for Water Purification” (Project ID: 21-ENEV-0602)

\$200 Cash Award, 2nd place winner – Jing Zheng, Kalani High School “Bioremediation of contaminated water using Carica papaya seeds” (Project ID: 21-ENEV-0362)

\$200 Cash Award, 2nd place winner – Makoa DeAlmeida, Mililani High School “Density of native foliage and its relation with stream quality” (Project ID: 21-EAEV-0041)

Associated Chinese University of Women

JR Division

\$200 Cash Award - Yunping Wu, Kalakaua Middle School, “Using Bioinformatic Tools to Find if Drugs Bind Only their Target Proteins” (Project ID: 21-CBIO-6097)

\$200 Cash Award – Callie McKinney, Niu Valley Middle School, “Shake, Rattle, or Break” (Project ID: 21-ENMC-5468)

\$200 Cash Award – Tristen Medeiros, Kaneohe Elem School, “The Recycled House” (Project ID: 21-EEV-6485)

SR Division

\$200 Cash Award - Logan Lau, Kamehameha Kapalama, “Testing Fabric and Mask particle filtration efficacy” (Project ID: 21-BMED-0094)

\$200 Cash Award - Jiacheng Dang, Iolani School, “An AI-aided solution to open-angle glaucoma screening in developing and rural countries” (Project ID: 21-CBIO-0205)

***\$200 Cash Award - Natalie Kuo, Kaiser High School
“Utilizing AI to reduce the risk of SIDS” (Project ID: 21-ROBO-0581)***

Friends of Hanauma Bay

***\$150 Cash Award – James Sewake, Pearl City High School
“Effect of Oxybenzone on Artemia salina” (Project ID: 21-ANIM-0176)***

\$100 Cash Award – Teacher Anthony Ferro, Pearl City High School

***\$100 Cash Award – Ryder K., Kawananaoka Middle School
“Bring on the Brine: What Salinity level is Best for Hatching Brine Shrimp” (Project ID: 21-ANIM-6160)***

\$50 Cash Award – Teacher Austin Choy, Kawananaoka Middle School

Grace Pacific, LLC

JR Division:

***\$250 Cash Award – Riley Asakura, Konawaena Intermediate
“Efficacy of Common Disinfectants” (Project ID: 21-BMED-5027)***

\$250 Cash Award – Keaupuni Miyake, St. Theresa School

“What Kinds of Beaches Withstand Tsunamis Easier?” (Project ID: 21-EAEV-6417)

SR Division

\$500 Cash Award – Ryan Do & Kenichi Price, Waipahu High School

“Pollution via Storm Drains” (Project ID: 21-EAEV-0217)

\$500 Cash Award – Ynamariah Labrador, Campbell High School

“The Effects of the Bilimbi Fruit on Mealybugs” (Project ID: 21-PLNT-0075)

Hawaii Association of Environmental Professionals

JR Earth and Environmental Science

\$100 Cash Award - Sri Butz, Hilo Intermediate “Comparison of Different Absorbent Materials on a Simulated Oil Spill” (Project ID: 21-EAEV-6457)

\$100 Cash Award - Kai Motoyama, Hawaii Baptist Academy, “Does Naupaka (leaf) or spit work better to de fog dive masks than man made de fogging substances?” (Project ID: 21-EAEV-5911)

\$100 Cash Award - Brooke Fraiola, St. Ann’s School, “What is the best choice for bottled water?” (Project ID: 21-EAEV-6503)

SR Earth and Environmental Sciences

\$100 Cash Award - Atilla Aveina-Fagota, Waipahu High School, “Race to Vanish: Biodegradable vs Compostable”

\$100 Cash Award - Kai Mottley, Kauai High School, “Using GIS to locate Native Species’ Habitat and their future Refugia based on SLR-XA(Sea Level Rise Exposure Area)” (Project ID: 21-EAEV-0577)

\$100 Cash Award - Ashlynn Carney, Mililani High School, “Investigating the Effects of Salinity on the Invasive Plant Species, Ipomoea aquatica, through Growth, Carbon Sequestration, and Histology” (Project ID: 21-EAEV-0099)

JR Environmental Engineering

\$100 Cash Award - Tristen Medeiros, Kaneohe Elementary, “The Recycled House” (Project ID: 21-ENEV-6485)

SR Environmental Engineering

\$100 Cash Award - Flora Thompson & Ava Thompson, Waipahu High School “Using Magnetism to Clean up Oil Spills” (Project ID: 21-ENEV-0237)

Hawaii Institute of Marine Biology

\$25 Gift Card – Megan Nakamoto, Waiakea High School

“The Hawaiian Intertidal: Assessing Algae and Invertebrate Species Abundance Across Oahu” (Project ID: 21-ANIM-0120)

\$25 Gift Card – Riley Jeong, Kailua High School

“Creating Sunscreen with Mycosporine-like Amino Acids from Gracilaria Salicornia and Acanthophora spicifera” (Project ID: 21-CHEM-0340)

\$25 Gift Card – Andrew Dawson, Ethan Hui & David Torres, Iolani School

“Managing Oysters to Maintain our Islands (MOMI)” (Project ID: 21-ENEV-0487)

Hawaii Water Environment Association

\$100 Cash Award – Jacqueline Kirkpatrick, Mililani High School

“The Extraction of Aquatic Polypropylene, Nylon, and Petrochemical MicroPlastics Using Ferrofluid” (Project ID: 21-CHEM-0586)

\$100 Cash Award – Kai Roshto, Mililani High School

“Using Fruit Remnants as Biofilters for Water Purification” (Project ID: 21-ENEV-0602)

\$100 Cash Award – Kenichi Price, Waipahu High School

“Pollution via Storm Drains” (Project ID: 21-EAEV-0217)

\$100 Cash Award – Ryan Do, Waipahu High School

“Pollution via Storm Drains” (Project ID: 21-EAEV-0217)

\$100 Cash Award – Jing Zheng, Kalani High School

“Bioremediation of Contaminated Water Using Carica Papaya Seeds” (Project ID: 21-ENEV-0362)

\$100 Cash Award – Tiana Alfsen, Kalaheo High School

“Promoting the Bioremediation of Red Tides / Oil Leaks Using Oil Eating Bacteria Through a Coastline Pump” (Project ID: 21-ENEV-0270)

Hawaiian Astronomical Society

\$50 Cash Award – Kenta Sakamoto, Roosevelt High School

“Mapping Dark Matter Signals” (Project ID: 21-PHYS-0021)

\$50 Cash Award – Wilson Chau & Holden Suzuki, Maui Waena Intermediate

“Analysis of the LD2 Asteroid and its Transformation” (Project ID: 21-PHYS-6353)

Illuminating Engineering Society

\$50 Cash Award – Tyler Matsuzaki, Iolani School, “Creation of a Novel Lichen for Biofuel Production” (Project ID: 21-EGSD-0544)

\$50 Cash Award – Aaron Ross, Mililani High School, “Designing and Engineering Cheaper Hydroponics Systems that Increase Dissolved Oxygen (DO) Concentration” (Project ID: 21-ENEV-0007)

\$50 Cash Award – Colby Suzuki, Mililani High School, “Effect of Lactobacillus acidophilus Concentration on the Voltage Output of a Microbial Fuel Cell” (Project ID: 21-EGSD-0024)

Institute of Electric and Electronic Engineers (IEEE-Hawaii Section)

SR Division

\$200 Cash Award - Lana Lubecke, Kalani High School, "No COVID Past This Point: Non-Contact Vital Sign Detection" (Project ID: 21-EBED-0373)

\$200 Cash Award – Braden Lee, Iolani School, "Development & Analysis of Low-Cost Wireless Flash Memory Devices" (Project ID: 21-EBED-0494)

\$200 Cash Award - Natalie Kuo, Kaiser High School, "Utilizing AI to Reduce the Risk of SIDS" (Project ID: 21-ROBO-0581)

JR Division

\$100 Cash Award - Sienna Boughen, Kailua Intermediate, "Robo Chef" (Project ID: 21-ROBO-5756)

\$100 Cash Award - Joshua Labaczewski, Hawaii Baptist Academy, "Solar Cell Output versus Temperature" (Project ID: 21-EAEV-3663)

\$100 Cash Award - Luka Milincic, Kaimuki Middle School, "Long Range Wireless Energy Transfer" (Project ID: 21-ENMC-5612)

\$100 Cash Award - Issac Hu, Calvary Chapel Christian School, "Prosthetic Finger" (Project ID: 21-ROBO-6195)

J.W. Morrow

\$50 Cash Award – Noah Chung, Punahou School

“Analysis and Comparison of SARS-CoV-2 Mutations to Viral Capabilities” (Project ID: 21-CBIO-0475)

\$50 Cash Award – Lana Lubecke, Kalani High School

"No COVID Past This Point: Non-Contact Vital Sign Detection" (Project ID: 21-EBED-0373)

McInerny Scholarship Awards

\$1,000 Cash/Scholarship Award – Ynamariah Labrador, Campbell High School

“The Effects of the Bilimbi Fruit on Mealybugs” (Project ID: 21-PLNT-0075)

\$1,000 Cash/Teacher Award – Mitchell Higashi (for Ynamariah Labrador)

\$1,000 Cash/Scholarship Award – Lana Lubecke, Kalani High School

"No COVID Past This Point: Non-Contact Vital Sign Detection" (Project ID: 21-EBED-0373)

\$1,000 Cash/Teacher Award – Bryan Silver (for Lana Lubecke)

\$1,000 Cash/Scholarship Award – Jiacheng Dang, Iolani School

“An AI-aided solution to open-angle glaucoma screening in developing and rural countries” (Project ID: 21-CBIO-0205)

\$1,000 Cash/Teacher Award – Yvonne Chan (for Jiacheng Dang)

\$1,000 Cash/Scholarship Award – Cade Kane, Kamehameha Schools, Kapālama

“The Effect of a Mycorrhizal Fungus on Endemic, Indigenous, and Non-Native Plant Species in Hawaii” (Project ID: 21-MCRO-0134)

\$1,000 Cash/Teacher Award – Grant Yamashita (for Cade Kane)

\$1,000 Cash/Scholarship Award – Stephanie Yoshida, Punahou School

“Determining the Detectability of Planets Transiting Stars of Extragalactic Origin” (Project ID: 21-PHYS-0229)

\$1,000 Cash/Teacher Award – Johannes Adams (for Stephanie Yoshida)

\$1,000 Cash/Scholarship Award – Kai Roshto, Mililani High School

“Using Fruit Remnants as Biofilters for Water Purification” (Project ID: 21-ENEV-0602)

\$1,000 Cash/Teacher Award – Nel Venzon Jr. (for Kai Roshto)

\$1,000 Cash/Scholarship Award – Kelly Mukai, Iolani School

“Engineering an Invasive Algae and Taro Based Bioplastic” (Project ID: 21-MATS-0069)

\$1,000 Cash/Teacher Award – Yvonne Chan (for Kelly Mukai)

Nalu Studies

Framed Nohea Gallery Painting - Kellen Apuna, Kamehameha Schools Kapālama

“An Inventory of Forest Birds Along the Aiea Loop Trail, O‘ahu, Hawai‘i” (Project ID: 21-ANIM-0337)

National Security Agency

\$1,000 Cash Award – Lana Lubecke, Kalani High School, "No CoVID Past This Point Non-Contact Vital Sign Detection” (Project ID: 21-EBED-0373)

\$600 Cash Award – Blaise Swartwood, Mililani High School, “High Accuracy Classification of Myopathy and Normal Electromyography Signals Using ResNet50 Neural Network” (Project ID: 21-TMED-0412)

\$400 Cash Award – Jeein Hong, Iolani School, “Developing a Neural Network Model of the Total Honey Bee Colony Loss” (Project ID: 21-MATH-0165)

NOAA Awards

JR Division

\$100 Cash Award - Sri Butz, Hilo Intermediate School, “Comparison of Different Absorbent Materials on a Simulated Oil Spill” (Project ID: 21-EAEV-6457)

\$100 Cash Award - Kaiden Yoshikawa, Iao Intermediate School, “Are you drinking plastic?” (Project ID: 21-EAEV-6059)

\$100 Cash Award - Gabriella Tuscon, Volcano School of Arts & Sciences, “Discharge and Deposition at Honoli’i Beach Park” (Project ID: 21-EAEV-5073)

\$100 Cash Award - Miabella Naval, St Ann’s School, “What is the Cleanest and Best Water to Drink” (Project ID: 21-EAEV-5011)

\$100 Cash Award - Keaupuni Miyake, Saint Theresa School, “What Kinds of Beaches Withstand Tsunamis Easier?” (Project ID: 21-EAEV-6417)

SR Division Honorable Mentions

\$1,000 Cash Award - Aidan Gregersen and Joe Puplava, Kauai High School, “An Analysis of Sea Level Rise Predictions and Relations to Density and Polar Ice Cap Volume Fluctuations” (Project ID: 21-EAEV-0572)

\$500 Cash Award - Ashlynn Carney, Mililani High School, “Investigating the Effects of Salinity on the Invasive Plant Species Ipomoea aquatica through Growth Carbon Sequestration and Histology” (Project ID: 21-EAEV-0099)

SR Division

\$2,000 Cash Award - Kai Mottley, Kauai High School, “Using GIS to locate Native Species Habitat and their future Refugia based on SLRXA (Sea Level Rise Exposure Area)” (Project ID: 21-EAEV-0577)

\$2,000 Cash Award - Lela DeVine, Waiakea High School, “Structural Deduction and Environmental Analysis of Novel Tirofiban and Coumarin Derivatives Originating from the Endophytic Isolate FM Xylaria sp” (Project ID: 21-MCRO-0111)

\$2,000 Cash Award - Andrew Dawson, Ethan Hui, and David Torres, ‘Iolani School “Managing Oysters to Maintain our Islands (MOMI)” (Project ID: 21-ENEV-0487)

Saul Price / Aina Haina Awards

\$100 Cash Award - Makayla Seeger, Kalaheo High School “King Tides and Magnetic Pole Reversals” (Project ID: 21-PHYS-0272)

Society of American Military Engineers, Honolulu Post

JR Division

\$25/each Cash Award - Kaylie Liu & Bree Matayoshi, Kaimuki Middle School “Don't Be Bitter, Help Pick Up Litter!” (Project ID: 21-ENEV-5624)

\$50 Cash Award - Kailani Clark, Niu Valley Middle School “Natural Packing Material?” (Project ID: 21-ENEV-5404)

\$50 Cash Award - Julia Cicatko, Kahuku High and Intermediate “Sound Wave Reflection” (Project ID: 21-PHYS-5095)

\$50 Cash Award – Luka Milincic, Kaimuki Middle School “Long Range Wireless Energy Transfer” (Project ID: 21-ENMC-5612)

\$50 Cash Award – Riley Asakura, Konawaena Middle School “Efficacy of common Disinfectants” (Project ID: 21-BMED-5027)

\$100 TEACHER Cash Award – Ms. Cummins, Konawaena Middle School “Efficacy of common Disinfectants” (Project ID: 21-BMED-5027)

SR Division

\$100 / each Cash Award - Flora Thompson & Ava Thompson, Waipahu High School “Using Magnetism to Clean up Oil Spills” (Project ID: 21-ENEV-0237)

\$100 Cash Award - Jacob Reece, Kaua‘i High School “Hydro-Powered Archimedes Screw” (Project ID: 21-ENMC-0381)

The Queen’s Health Systems

\$500 Cash Award – Natalie Kuo, Kaiser High School
"Utilizing AI to Reduce the Risk of SIDS" (Project ID: 21-ROBO-0581)

\$500 Cash Award – Cade Kane, Kamehameha Schools, Kapālama
“The Effect of a Mycorrhizal Fungus on Endemic, Indigenous, and Non-Native Plant Species in Hawaii” (Project ID: 21-MCRO-0134)

\$500 Cash Award – Maya Oishi, Hilo High School
“Investigating the Chemical Components of Black and Red Turmeric” (Project ID: 21-BCHM-0411)

\$500 Cash Award – Blaise Swartwood, Mililani High School
“High Accuracy Classification of Myopathy and Normal Electromyography Signals Using ResNet50 Neural Network” (Project ID: 21-TMED-0412)

\$500 Cash Award – Angeline Chan & Juliet Martin, Kauai High School
“Teenagers’ Mental Health vs. The COVID-19 Pandemic” (Project ID: 21-BEHA-0231)

Teacher Awards:

\$500 Cash Award - Garrett Hatakenaka

\$500 Cash Award - Grant Yamashita

\$500 Cash Award - Pascale Pinner

\$500 Cash Award - Nel Venzon

\$500 Cash Award - Kevin Johnson

University of Hawai‘i at Mānoa, College of Engineering Awards

JR Division

\$100 Cash Award/Certificate - Sienna Boughen, Kailua Intermediate School; "Robo Chef" (Project ID: 21-ROBO-5756)

\$100 Cash Award/Certificate – Callie McKinney, Niu Valley Middle School; "Shake, Rattle, or Break" (Project ID: 21-ENMC-5468)

\$100 Cash Award/Certificate – Luka Milincic, Kaimuki Middle School; "Long Range Wireless Energy Transfer" (Project ID: 21-ENMC-5612)

SR Division

(All SR Division winners will present at the Virtual CoE Banquet on 4/30 @11am-12pm)

\$300 Cash Award/Certificate – Jaxon Poentis, Roosevelt High School; "Artificial Intelligence for Disaster Recovery" (Project ID: 21-ROBO-0027)

\$300 Cash Award/Certificate – Antonio Velasco and Lauren Suzuki, Pearl City High School; "Improving Autonomous Underwater Vehicle AUV Glider Efficiency Wingspan"; (Project ID: 21-ENMC-0542)

\$300 Cash Award/Certificate – Lana Lubecke, Kalani High School, "No CoVID Past This Point Non-Contact Vital Sign Detection" (Project ID: 21-EBED-0373)