The 68th Annual GSDSEF

GRAND AWARDS

2022
Junior Division

Grand Awards
Runners-Up
The Effect of Carbon Dioxide on Bioluminescent Dinoflagellates
How Long Does It Take for Superworms to Eat Styrofoam?
Junior Division
Grand Award Runner Up - Physical Sciences

Danielle Leivers-Breise
The Children’s School, Grade 8
Advisor: D. Quincannon

Deodorant Alarm
Dhruv Bantval
Pacific Trails Middle School, Grade 7
Advisor: L. McVay

Development of Smart Stick with Visual and Ultrasonic Sensor to Assist Visually Impaired
Senior Division

Grand Awards

Runners-Up
Matthew Noto
Canyon Crest Academy, Grade 11
Advisor: A. Siegel

Novel Inhibitors for Conserved Regions of RecA to Slow the Development of Antibiotic Resistance in Bacteria
Crosslinked Zinc Oxide Nanoparticles: A Novel Approach to Combatting Antibacterial Resistance and Nanoparticle Toxicity
A Heuristic Solution to the Closest String Problem Using Wave Function Collapse Techniques
Senior Division

Grand Award Runner Up - Physical Sciences

Kara Fan
Westview High School, Grade 11
Advisor: M. Ingram

Insect-inspired Nanopillared Materials to Prevent Bacterial Growth
The Taiwan Award

A Grand Award presented by the Taiwanese American Foundation of San Diego
The Taiwan Award

Elaine Dong
Canyon Crest Academy, Grade 11
Advisor: A. Siegel

Crosslinked Zinc Oxide Nanoparticles: A Novel Approach to Combatting Antibacterial Resistance and Nanoparticle Toxicity
Junior Division

Grand Awards
Junior Division

Grand Award – Life Sciences

Leanne Fan
Mesa Verde Middle School, Grade 8
Advisor: R. Bird

Finsen Headphone: A Smart Headphone to Diagnose and Control Middle Ear Infection Using Machine Learning and Light Spectrum
Junior Division

Grand Award - Life Sciences

Kai Moore

The Children’s School, Grade 8

Advisor: D. Quincannon

Effect of Kelp Fertilizer on Growth Rate of Eruca sativa
Junior Division

Grand Award - Physical Sciences

Arnav Dagar
Pacific Trails Middle School, Grade 8
Advisor: M. Mareth

Where’s Waldo - A Bayesian Approach for Localizing a LEGO Robot
Junior Division

Grand Award - Physical Sciences

Shiloh Dimenstein
Soille San Diego Hebrew Day School, Grade 8
Advisor: S. Jones

LIV: Litter Identification Vehicle
Senior Division

Grand Awards
Senior Division

Grand Award - Life Sciences

Daniel Cai
Torrey Pines High School, Grade 12
Advisor: B. Belyea

Deep Learning-Aided Diagnosis of Autoimmune Blistering Diseases
Amogh Chaturvedi
Canyon Crest Academy, Grade 11
Advisor: E. Fisher

A Novel Multi-omics Data Integration Framework Using Attributed Networks for Biomedical Classification
Senior Division

Grand Award - Physical Sciences

Ayush Nayak
Westview High School, Grade 11
Advisor: S. Halander

Using Antimony Indium Quantum Dots for Next Generation High Mobility Transistors
Senior Division

Grand Award - Physical Sciences

Rohan Bosworth
Poway High School, Grade 11
Advisor: K. Woldseth

End-to-End Path Planning and Control for Autonomous Vehicles Using Inverse Kinematics with Parameterized Arc Length
The 67th Annual GSDSEF

ISEF Finalists
Daniel Cai, Torrey Pines High School

Amogh Chaturvedi, Canyon Crest Academy

Ayush Nayak, Westview High School

Rohan Bosworth, Poway High School
ISEF Finalists:

Matthew Noto, Canyon Crest Academy

Shirley Xu, The Bishop’s School
Congratulations to our 2022 Grand Award Winners