

The 71st Annual GSDSEF

GRAND AWARDS

2025

Junior Division

**Grand Awards
Runners-Up**

Junior Division

Grand Award Runner Up - Life Sciences

Skye Kelsey

The Children's School

Advisor: T. Brown

Title: The Effect of Arthrospira Platensis on Plastic Degradation

Junior Division

Grand Award Runner Up - Life Sciences

Andy Feng and Henry Xu

Pacific Trails Middle School

Advisor: A. Xu

Mapping Invasive Species With A Drone And Machine Learning Algorithm In San Diego

Junior Division

Grand Award Runner Up - Physical Sciences

Joie Green

Muirlands Middle School

Advisor: L. Trombley

May the Best Strategy Win: The Optimal Approach to Battleship

Junior Division

Grand Award Runner Up - Physical Sciences

Charles Brum

Elite Academic Academy

Advisor: D. Brum

StarSync: Local Orientation Synchronization Device

Senior Division

Grand Awards

Runners-Up

Senior Division

Grand Award Runner Up 1 - Life Sciences

Anirudh Kalyanaraman

Mr. Carmel High School

Advisor: H. Kalyanaraman

Adverse Cardiovascular Effects of Burn Pit Exposure: The Role of Oxidative Stress

Senior Division

Grand Award Runner Up 2 - Life Sciences

Nupur Bhalla and Hannah Im

Del Norte High School

Advisor: J. and J. Cheskaty

The Relationship Between Emotional Intelligence and Academic Burnout in Adolescents

Senior Division

Grand Award Runner Up 1 - Physical Sciences

Tarik Oguz

Del Norte High School

Advisor: J. Cheskaty

Small Changes, Big Impact- miRNAs in Lung Cancer Detection

Senior Division

Grand Award Runner Up 2 - Physical Sciences

Joe Smith

Stanford Online High School

Advisor: V. Sandoval

Lost in the Stars: Chemical Tagging of Magellanic Clouds and Accreted Populations

The Taiwan Award

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

The Taiwan Award

Nathan Qiu

Canyon Crest Academy

Advisor: A. Shakeri

Reinforcement Learning Based Simulated Annealing



Junior Division
GRAND AWARDS

Junior Division

Grand Award – Life Sciences

Karishma Saha

Bernardo Heights Middle School

Advisor: C. Mukherjee

Structural Brain Volume Differences Across Cognitive Aging Stages: Evidence from MRI

Junior Division

Grand Award – Life Sciences

Uma Kattamuri

Oak Valley Middle School

Advisor: S. Gorugantu

Effect of Increased CO₂ Levels on CAM Plant Kalanchoe pH and Stomatal Density

Junior Division

Grand Award - Physical Sciences

Nathan Lee and Matthew Yang

The Cambridge School

Advisor: M. Mayne

The Braille Box: Revolutionize Teaching to the Vision-impaired

Junior Division

Grand Award - Physical Sciences

Ethan Hu and Andrew Xu

The Bishop's School

Advisor: B. Barry

Low-cost Portable Braille Embosser for Education

Senior Division

GRAND AWARDS

Senior Division
Grand Award - Life Sciences

Saanvi Dogra

Del Norte High School

Advisor: A. Caldicott

*Uncovering Molecular Mechanisms for Treatment of Congenital Heart Defects through
High-Content Genetic Perturbation Screens*

Senior Division

Grand Award - Life Sciences

Lilian Zeng

Del Norte High School

Advisor: H. Xu

*Identifying Bacteriophages, Nature's Own Secret Weapon Against
Antibiotic Resistant Bacteria, for Achromobacter*

Senior Division

Grand Award - Physical Sciences

Ryan Rezaei

Canyon Crest Academy

Advisor: D. Celniker

Novel Material Discovery through Geometric Deep Learning and VAE Latent Space Diffusion

Senior Division

Grand Award - Physical Sciences

Kayley Xu

The Bishop's School

Advisor: M. Jaiclin

Wearable Stethoscope Array and Localization Diagnosis of Cardiopulmonary Sounds

The 71st Annual GSDSEF

ISEF Finalists
2025

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Saanvi Dogra

Lilian Zeng

Ryan Rezaei

Kayley Xu

ISEF Finalists:

Tarik Oguz

Anirudh Kalyanaraman

Nupur Bhall and Hanna Im

Joe Smith

**Congratulations to our
2025**

**GRAND AWARD
Winners**