

GREATER SAN DIEGO

S&E EF

SCIENCE &
ENGINEERING
FAIR

gsdsef.org

The 70th Annual GREATER SAN DIEGO SCIENCE & ENGINEERING FAIR



INFORMATION & STUDENT EXHIBITOR DIRECTORY

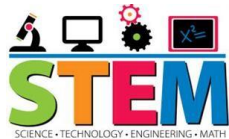
March 11-March 17, 2024

BALBOA PARK MUNICIPAL GYMNASIUM

Sponsored By



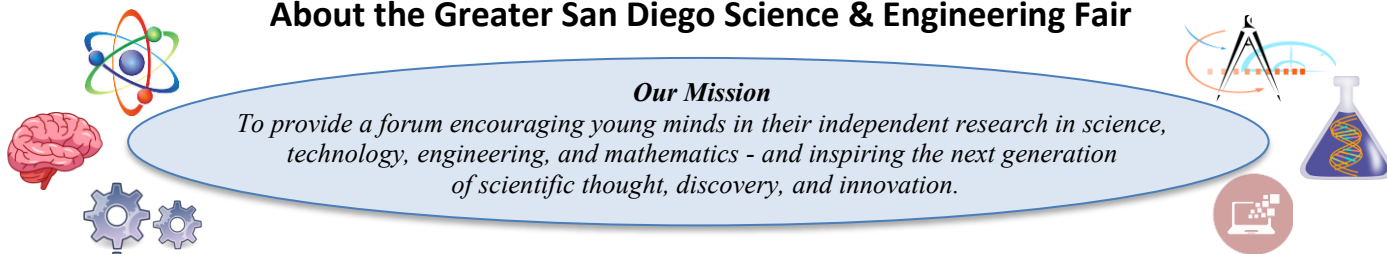
Welcome to the 70th Annual Greater San Diego Science and Engineering Fair!



2024 GSDSEF Schedule of Events

<p>Tuesday, March 12, 2024</p> <p>Sign In and Project Set Up Day</p>	<p>Project Sign in and Setup Day at the San Diego Municipal Gymnasium –next to Air and Space Mus.</p> <ul style="list-style-type: none"> • Sign in and set up projects - 1 pm to 7 pm • Bring a 1) foldable chair labeled with your name to use when not speaking to judges, 2) backboard, 3) notebook, and 4) any models. Check website for items that are not allowed. • Pick up pre-ordered T-shirts. Purchase GSDSEF souvenirs at the Store.
<p>Wednesday, March 13, 2024</p> <p>Judging Day</p>	<p>Judging Day – Municipal Gymnasium – 8:15 am to approx. 3:00pm, Students/Judges only allowed during judging!</p> <ul style="list-style-type: none"> • <u>ALL</u> Students Exhibitors must be present throughout judging, UNTIL DISMISSED. • Dress in appropriate business-like attire. WEAR YOUR NAME BADGE! • Do not forget to bring your lunch! Food is NOT available for purchase and you will NOT be permitted to leave to buy any. No food allowed in the BPAC except to store it.
<p>Thursday, March 14, 2024</p> <p>See you at the Awards Ceremony!</p>	<p>Municipal Gymnasium closed to Public</p> <ul style="list-style-type: none"> • Student Exhibitors receive free admission to the San Diego Zoo with their exhibitor badge. <p>Awards Ceremony – The San Diego Air and Space Museum in Balboa Park. Parking is free. Doors open at 5:30 pm - Ceremony begins at 6 pm. Food Concessions available!!!</p> <ul style="list-style-type: none"> • No awards will be announced until the ceremony. ALL students receive an award.
<p>Friday, March 15, 2024</p> <p>School Tours</p>	<p>Municipal Gymnasium closed to Public</p> <ul style="list-style-type: none"> • Student Exhibitors receive free admission to the San Diego Zoo with exhibitor badge. • School Tours – Schools may bring students to view the projects between 10am and 2pm. No reservations necessary!
<p>Saturday, March 16, 2024</p> <p>Open to Public + Project Take-Down</p>	<p>Open to Public – 10 am - 2 pm • Admission and Parking are FREE. The whole family is welcome to view projects in the Municipal Gym!</p> <p>Project Take-Down – Day 1 2pm-5pm - Students may take down their projects. <u>ALL PROJECTS MUST remain on display until 2 pm, no exceptions.</u></p> <ul style="list-style-type: none"> • Please bring your exhibitor badge as identification to remove your project.
<p>Sunday, March 17, 2024</p> <p>Project Take Down Day 2</p> <p>Clean Up</p>	<p>Project Take-Down – Day 2 10am - 1 pm.</p> <ul style="list-style-type: none"> • Please bring your exhibitor badge as identification to remove your project. <p>NOTE: PROJECTS NOT REMOVED BY 1 pm on Sunday, March 17 will be placed to the side until 10am on Monday, March 20. After that they will be discarded, unless prior arrangement is made. Notebooks will be emptied and distributed to schools for re-use. If you can't pick your project up, arrange for someone else to do so. Give that person your badge and a note authorizing removal.</p>

About the Greater San Diego Science & Engineering Fair



Our Mission

To provide a forum encouraging young minds in their independent research in science, technology, engineering, and mathematics - and inspiring the next generation of scientific thought, discovery, and innovation.

Each year since 1955, the Greater San Diego Science & Engineering Fair (GSDSEF) has provided the students of San Diego and Imperial Counties with a vital opportunity to learn and excel in Science, Technology, Engineering, and Mathematics (STEM). Now in its 70th year, the GSDSEF is very pleased to again be holding the 2024 Fair in person after virtual Fairs in 2021 and 2022. As a regional competition, we encourage students to go beyond their classroom studies to do independent research – to ask compelling questions, design and implement innovative solutions, and present and defend their results to more than 250 judges who are professionals in their fields. Winners of the highest GSDSEF awards in the Junior Division (Grades 6-8) and Senior Division (Grades 9-12) have regularly advanced and distinguished themselves in further competitions, including the California Science & Engineering Fair, International Science & Engineering Fair, Thermo Fisher Junior Innovators Challenge, and Regeneron Science Talent Search.

A special thanks goes to teachers and parents, for their commitment to supporting students' project-based STEM learning. The GSDSEF Management Committee also deserves special recognition, as each of its 22 members put in dozens of hours of work to plan and execute an enjoyable, safe, and rewarding Fair experience for all. Four MC members deserve particular recognition: Vickie Driver (Judging Coordinator), Rosemary Armour (Scientific Review Committee and Screening chair), Sany Zakharia (Treasurer), and Stephen Rodecker (Fair Executive Director and Management Committee chair).

The GSDSEF students' STEM achievements showcase how young minds can make an impact in the present and future. *...Inspirational...motivational...transformative...* For 70 years, the GSDSEF has been encouraging young minds in their pursuits that will define the next generation of scientific thought, discovery, and innovation.

Who May Participate in the GSDSEF

Any student in grade 6 through 12 who attend a public, private, parochial or home school in San Diego County or Imperial County may enter a project for screening and possible participation in the GSDSEF.

Awards and Benefits of Participating in the GSDSEF

- The most important benefit for all student exhibitors is the opportunity to display their projects, meet with other exhibitors, and share projects and results with professional scientists and/or engineers.
- A Certificate of Merit is given to each exhibitor in recognition of his/her efforts. All students receive a Place Award ribbon on stage at the Awards Ceremony.
- First, second, third and fourth place ribbon awards are given for projects in each category in both Senior and Junior Divisions.
- Four Senior Division Grand Awards are given—2 each in the Life and Physical Sciences. These students receive monetary awards, plaques, and the opportunity to compete in the Regeneron International Science and Engineering Fair (ISEF) in May.
- Four Junior Division Grand Award winners receive cash awards and plaques.
- Four Senior and Four Junior Division Grand Award *Runners-up* receive cash awards and plaques. The top Senior Division Grand Award Runners up—1 from Life Science and 1 from Physical Science-- will also compete in the Regeneron ISEF.
- Other Special Awards, presented on stage during the Awards Ceremony to student exhibitors, include: Taiwanese American Foundation of San Diego (a legacy Grand Award), Collins Aerospace Fred H. Rohr Memorial Award (legacy Special Award), Professional Engineers in California Government Scholarships, BD Awards, Mickey Award, Ronald Domb Memorial Award, Thermo Fisher Science Awards, and the Student Leadership Board Awards.
- Over 25 Professional Societies and other National Society Awards provide special awards and/or scholarships.
- Top projects in Senior and Junior Divisions are nominated and selected to participate in the California Science & Engineering Fair. In Junior Division only, the top 10% are nominated for the Thermo Fisher Scientific Junior Innovators Challenge Award, previously known as Broadcom MASTERS.
- Junior and Senior Division Teacher of the Year Awards are given a cash award in honor of Arthur Friedman, a longtime GSDSEF judge.

SPECIAL RECOGNITION AND THANKS

The Board of Directors and the Management Committee would like to thank the following individuals, groups and organizations for contributing time, talent, financial support, or in-kind support to our Science Fair.

SPONSORS

Premier Sponsor

(\$25,000 and Up)

BD

Diamond Sponsors

(\$15,000 - \$24,999)

Thermo Fisher Scientific

Qualcomm

Platinum Sponsors

(\$10,000 - \$14,999)

ASML

Broadcom Foundation

General Atomics Science Education Foundation

PECG (Professional Engineers in California Government)

Walter J. and Betty C. Zable Foundation

Silver Sponsor

(\$2,500 - \$4,999)

Pfizer

Takeda

Bronze Sponsors

(\$1,000 - \$2,499)

Collins Aerospace Systems

DRS Daylight Solutions

Taiwanese American Foundation of San Diego

Viasat

Friends of GSDSEF

(\$999 and Less)

The Institute for Effective Education

In-Kind Sponsors

San Diego County Office of Education

San Diego Zoo Wildlife Alliance

Area Merchants, Businesses, Community Organizations

San Diego City Parks and Recreation – Balboa Park Activity Center and Municipal Gymnasium

Community Volunteers



70th Annual Greater San Diego Science & Engineering Fair – 2024

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- Mr. William Proffer**, Leidos
- Mr. Sany Zakharia**, Qualcomm – *GSDSEF Treasurer*
- *****
- Mr. Steve Rodecker**, *Science Fair Director*

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- Mr. Sean Bennett** – *SRC, Screening*
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- Ms. Jennifer Eveleth** – *Professional Societies*
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- Mr. Hal Slater** – *Size and Safety Coordinator*
- Mr. Douglas Smith**, Leidos – *Website Management Committee, Hospitality Coordinator*
- Mrs. Jessica Ulliyot** – *Coordinator of GSDSEF Store, Co-Coordinator of Screening and Scientific Review Committee*
- Dr. Earl Williams**, NAVWAR – *Technology Coordinator, Grand Awards Judging Coordinator*
- Mr. True Xiong**, Sony Playstation – *Volunteers Coordinator*
- Mr. Sany Zakharia**, Qualcomm – *Grants and Fundraising Coordinator*
- Kyle Tianshi**, Student Leadership Board President – *Student Representative*

Board Members Emeriti

Mr. Phil Gay and Mrs. Wendy Gay

*The Greater San Diego
Science & Engineering Fair
Board of Directors would like to give
special recognition and appreciation to
the Screening Volunteers for the many
hours they spent reviewing over 500
submitted project presentations.*

Screening Volunteers:

- AnnWelton
- Terry Thedell
- Gary Dorrance
- Hilde VanDenBerg
- Gina Martin
- Sean Bennett
- David Hunt
- Laura McWilliams
- Jessica Ulliyott

*The Board of Directors, Management Committee members, and Screeners are volunteers
who give their time and expertise to produce the Greater San Diego Science & Engineering Fair.
A special thank you to E. Dale Clarke for his expertise in maintaining the gsdsef.org website.*

2024 STUDENT LEADERSHIP BOARD



Student Leadership Board Officers

President – Kyle Tianshi
Vice President of Activities – Sarah Gao
Vice President of Outreach – Arnav Dagar
Secretary – Leanne Fan
Treasurer – Kate Xu

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Agastya Sridharan, Scripps Ranch High
Alex Kumar, Del Norte High School
Andrew Tsui, Canyon Crest Academy
Arnav Dagar, Canyon Crest Academy
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Vikram Chandra, San Marcos High School
Vishnu Aravind, Del Norte High School
Zinia Khattar, Del Norte High School

The Student Leadership Board is the GSDSEF's Honor Society. They:

- work closely with the Management Committee to help organize and promote the GSDSEF.
- engage in outreach to local schools for boosting interest in STEM and the GSDSEF.
- host eight workshops to guide students through the process of conducting and presenting a STEM project.
- conduct a Peer Mentorship Program with students receiving one-on-one advisory from an SLB member.
- run all GSDSEF social media accounts.
- present at a Science Expo Day to spread the love for STEM to families in the GSDSEF and San Diego communities.
- film tutorial and “how to” videos for the GSDSEF YouTube Channel.
- select two projects for the SLB Awards and present these awards at the Awards Ceremony.

The SLB is a great place for students from diverse backgrounds to share their passion for STEM in the community.

Learn more about the SLB - Message us on:

Instagram (@gsdsef), Twitter (@gsdsefofficial), Facebook (@sandiegosciencefair), or email (gsdsefslb@gmail.com).

The Student Leadership Board would like to thank

**DRS DAYLIGHT
SOLUTIONS** 

for their sponsorship.

Awards Ceremony

March 14, 2024

San Diego Air and Space Museum, Balboa Park

6 pm

Doors open at 5:30 pm

Keynote Speaker:

Dr. Alan Stall

Sr. Principal Scientist, Distinguished Fellow
BD

Video Guest Speaker:

Irwin Jacobs

Founder of Qualcomm

Presentations On Stage:

Special Awards

Categorical Place Award Ribbons to All Student Exhibitors

Grand Awards

Announcement of Regeneron ISEF Finalists

GSDSEF is Celebrating Its Platinum Anniversary- 70

History of the Greater San Diego Science Fair – 70 Years Young

As we welcome our 70th Anniversary as a STEM research fair, we reflect back on the many anniversary milestones of the Greater San Diego Science and Engineering Fair. Mary Mikkelson, a long time stalwart supporter of the GSDSEF said, "anniversaries can be times of both reminiscence and evaluation, of looking back with an eye to moving ahead." So it was when the GSDSEF celebrated its Silver Anniversary in 1979, its Coral Anniversary in 1989, its Ruby Anniversary in 1994, and its Golden Anniversary in 2004. The legacy, started by Howard Weisbrod, continues in 2024 as we celebrate our Platinum Anniversary—70 years strong – with former winners returning to give back by serving as judges, advisors, committee members, and participating in the Awards Ceremony and in inspiring new participants in STEM.

What and why is there a Science Fair?

It is many things - or, more accurately, many people. It's the students who devote not just hours and days, but weeks, months and, frequently, years to scientific research. Students' interests range from eidetic imagery, plasma physics and autism to artificial harbors, synthetic skin and nitrogen lasers. It's teachers, too, teachers who stress scientific inquiry, who emphasize learning and then encourage students to correlate the results of that learning into STEM research projects. It's those supportive parents who allow - even enjoy smelly chemicals in the garage or and nasty-tempered pelicans on the patio. And, finally, representing virtually every business, research facility, university, school district, military and professional organization in the area, it's the hundreds of men and women who, from behind the scenes, keep the Fair running smoothly. Dr. Watson Davis, founder of Science Service, a national non-profit organization dedicated to the popularization of science, said in the early 1950's, "A science fair is 'book learning' put to work, an outward expression of what has been called the 'need for students.... to get their hands dirty, to have their minds disturbed by science.' A dramatic display of young people's knowledge, creativity and originality, it is also a built-in 'natural' way to 'stimulate students' curiosity,' to expose them to the excitement of learning and involve them in the satisfying and rewarding process of working out answers for themselves." STEM fair research emphasis is on doing individual, in-depth investigation, and communication: The ability to explain concepts, procedures and results in clear, precise terms, to answer questions which probe far beyond the 'hows' of a project into the 'whys' and 'what ifs.' There's a lot of hard work involved in this approach, a lot of try, try and try again, and that requires motivation. But, once started, there's no holding students back, no stopping them.

As we celebrate the 70th Anniversary of the Greater San Diego Science and Engineering Fair, the organizing Officers and Committees of the GSDSEF are immeasurably grateful to the community-wide support that has helped tremendously to enhance its exhibitors' experiences and to create a world-wide reputation as one of the best opportunities of its kind for Grade 6-12 students anywhere. The more than 35,000 alumni of this great organization have provided a rich wellspring of future STEM professionals for San Diego and beyond. But more importantly, all GSDSEF participants are STEM literate citizens and voters who have gained their knowledge through the rigorous application of STEM principles.

70th Annual Greater San Diego Science & Engineering Fair – 2024



Four Divisions in the GSDSEF:
Junior Division Life Sciences (Grades 6—8); Junior Division Physical Sciences (Grades 6—8)
Senior Division Life Sciences (Grades 9—12); Senior Division Physical Sciences (Grades 9—12)



Project Categories

Animal Sciences (ANIM)
Behavioral and Social Sciences (BEHA)
Biochemistry (BCHM)
Biomedical/Health Sciences, and
Biomedical Engineering (BMDE)
Cellular and Molecular Biology (CELL)
Chemistry (CHEM)

Computational Biology and Bioinformatics (CBIO)
Computer Science and Systems Software (COMP)
Earth and Environmental Sciences (EAEV)
Engineering – Electrical, Mechanical, and Robotics (EEMR)

Engineering – Energy, Materials, and Transport (EEMT)
Mathematics (MATH)
Microbiology (MICR)
Physics and Astronomy (PHYS)
Plant Sciences (PLNT)
Product Testing (PROD) - Jr Div Only

How Projects are Invited to Participate in the GSDSEF

To participate in the GSDSEF, students go through a Screening process. Students create a 10-slide digital presentation which is screened by professionals from the science, engineering, technology, and education fields. Projects that are “recommended” are invited to participate. In 2023, screeners reviewed over 520 digital presentations for uniqueness and adequate scientific method/engineering design principles.

Who Judges the GSDSEF

This year, 250+ judges from the science and education communities evaluate projects and interview students to determine place awards. These judges are scientists, engineers, technology experts, university professors, specialists and retired educators – the majority of whom have doctorates, masters, or bachelor degrees in their respective fields. Judges for Grand Awards have 5 or more years of science fair judging experience. Additionally, 50+ professional societies and organizations provide more than 100 special awards and scholarships.



Standards for Judging Science Fair Projects

The GSDSEF projects are judged by Standards aligned with the Regeneron International Science and Engineering Fair.

CREATIVITY:

Originality of problem, uniqueness of approach. The handling and interpretation of data should be commensurate with the grade level of the student. Ingenious use of equipment and materials is considered without regard to the cost of the items involved. The project demonstrates imagination and inventiveness, and often offers different perspectives, new possibilities or new alternatives.

SCIENTIFIC THOUGHT/ENGINEERING GOALS – Design and Methodology:

Scientific Thought: The project shows evidence of depth of study and effort in employing scientific procedures in the solution of a clearly defined problem including study of background, organized procedures, appropriate sampling, orderly recording and analysis of data and the formulation of logical conclusions. Research question is clear, focused and testable, and identifies contribution to the field of study. There is a well-designed plan with systematic, appropriate and complete data collection methods, defined variables/controls, and conclusions are based on results and data analysis. **Engineering Goals:** The project has a clear objective relevant to the needs of the potential user with defined criteria for the proposed solution. The product/process has been tested, is workable and feasible economically and ecologically, and demonstrates the intended design and objective.

THOROUGHNESS:

Science Projects: The study is complete within the scope of the problem. Scientific literature has been searched, experiments have been repeated and careful records have been kept. Data collection and analysis is systematic and sufficient with appropriate application of statistical methods to support interpretation and conclusions. **Engineering Projects:** The project demonstrates the development of the process/prototype/model. Prototype has been tested in conditions/trials of intended usage and demonstrates engineering skills.

SKILL:

Due credit is given for any special skills needed for the construction or use of equipment and for mathematical, computational, and observational & design skills, as well as whether project has been done at a school laboratory or in a research laboratory, and the degree of any assistance, mentoring, or professional guidance has been given.

CLARITY:

The purpose, procedures and conclusion are clearly explained orally and through a display. Graphics and legends are understandable and clear. The project notebook is well organized, neat and accurate, and complete. Sources of ideas, data and assistance are clearly identified and supporting documentation is clearly cited.

TEAM PROJECTS:

The tasks and contributions of each team member are clearly outlined, and both team members are familiar with all aspects of the project. The final work reflects the coordinated efforts of both team members.



70th Annual Greater San Diego Science & Engineering Fair – 2024



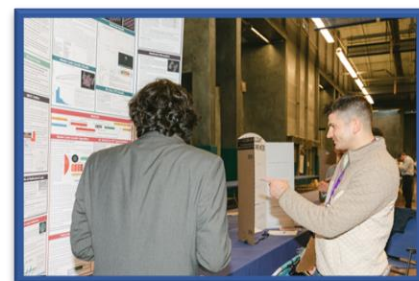
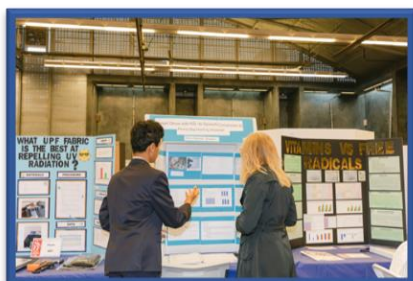
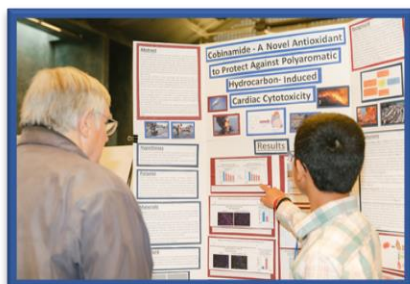
ORGANIZATIONS PROVIDING JUDGES TO THE 70th ANNUAL GSDSEF

The GSDSEF thanks the following companies, organizations, and schools for providing judges for the 2023 GSDSEF and would like to express sincere gratitude to the judges for their commitment, dedication, willingness, and flexibility to be a part of this year's judging. There would be no Fair without these dedicated professionals who take the time out of their busy schedules to talk with students, share their own passion for Science, Technology, Engineering, and Math and encourage these talented young minds in their pursuits to be the next generation of scientific and technological discovery and innovation.

3D Systems
 Amdcitt Designs and Consulting
 ASML
 Banck Clinical Research Center
 BEWISE
 BioLegend
 BIOS Lighting
 Booz Allen Hamilton
 Brain Corporation
 Brightseedbio
 Cibus
 County of San Diego
 DAS
 Deep Dive, LLC
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 Diane Ritchey-Andrews, Atty at Law
 DTx Pharma
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 General Atomics
 GNF
 Healthier Life Therapy
 Hewlett Packard
 Hillcrest Internal Med.
 IEC
 Illumina
 INOVA Diagnostics, Inc.

Intel
 JAMAR POWER
 Jewish Family Service
 Leidos
 Mesa College
 Mirati (A BMS company)
 MITRE Corporation
 Naval Health Research Center
 NOAA/NMFS/SWFSC
 Novartis
 NOVO Engineering, Inc.
 NYU Langone- San Diego
 Optical Services Company
 Pfizer
 Princeton University Plasma Physics Laboratory
 PUSD
 Qualcomm
 QUASAR Federal Systems
 Safe-T-Flight
 San Diego Biomedical Research Institute
 San Diego City College
 San Diego Community College
 San Diego County Air Pollution Control District

San Diego Jewish Academy/Salk Institute
 San Diego Natural History Museum
 San Diego State University
 San Ysidro Health Center
 Scripps Clinic
 Sharp Chula Vista Medical Center
 Sony Interactive Entertainment
 Southwestern College
 Sylvan Learning
 Systems Planning and Analysis (SPA)
 Takeda Pharmaceuticals
 Teradata
 TermoBuild Inc
 The City of San Diego
 The San Diego Biomedical Research Institute
 The Scripps Research Institute
 Thermo Fisher Scientific
 University of California San Diego
 University of San Diego
 University of Southern California
 University of Virginia
 US Navy-NIWC Pacific
 VCA
 Welch-Ilmvac Vacuum Pumps
 WuXi Biologics
 Zenobia Therapeutics/XplorStem LLC





70th Annual Greater San Diego Science & Engineering Fair – 2024



Professional Society and Recognition Awards

The Greater San Diego Science & Engineering Fair wishes to thank the Professional Societies and Organizations that have sponsored student awards over the years. Each Professional Society or Organization determines their own judging standards and awards based on their organization’s unique criteria. They provide more than 100 special recognition awards and scholarships to students totaling over \$20,000. Professional Societies and Organizations may choose for GSDSEF to distribute awards and scholarships or they may choose to award students at their Society’s board meetings or banquets. Eligibility criteria and awards vary greatly; if you would like additional information or wish to sponsor a Professional Society Award, please reach out to the Professional Society Coordinator.

Professional Societies and Organizations that have historically sponsored an award (varies year to year):

- American Academy of Pediatrics Climate Change and Environmental Health Committee
- American Society of Civil Engineers
- American Society of Materials International, San Diego Chapter
- American Society of Mechanical Engineers
- American Society of Non Destructive Testing (San Diego Section)
- Armed Forces Communications and Electronics Association
- Association for Women in Science, San Diego
- BD “Advancing the World of Health” Award
- Broadcom “Coding with Commitment” Award
- Building Industry Association (BIA) Cares
- California Association of Professional Scientists
- California Environmental Health Association - Southwest Chapter/County of San Diego, Dept of Environmental Health
- California School Nurse Organization: San Diego/Imperial Section
- Collins Aerospace’s Fred H. Rohr Science Award
- DRS Daylight Solutions Award for Optical Physics and Engineering
- General Atomics Sciences Education Foundation
- Hillcrest-Mission Valley Lions Club
- Kaiser Permanente
- Marine Technology Society
- Nature Needs SD
- Price-Pottenger Nutrition Foundation
- Professional Engineers in California Government
- Regeneron Biomedical Award
- Reuben H. Fleet Memorial Award
- San Diego Astronomy Association
- San Diego County Dental Society
- San Diego County Pharmacists Association
- San Diego County Veterinary Medical Association
- San Diego County Water Authority
- San Diego Section, American Chemical Society
- San Diego Psychological Association
- San Diego Zoo Wildlife Alliance
- Society of American Military Engineers – San Diego Post
- Scripps Research “Young Scientist” Award
- Society of Women Engineers - San Diego Section
- Taiwan Award
- The Ron Orta Excellence in Biomedical Research Award
- Torrey Pines Docent Society
- WaterReuse Association - San Diego Chapter

ISEF AFFILIATED AWARDS:

- American Psychological Association
- American Meteorological Society
- ASM Materials Education Foundation
- Association for Women Geoscientists
- DoD STEM Leadership Prize
- Mu Alpha Theta
- NASA Earth System Science Award
- National Geographic Award
- National Oceanic and Atmospheric Administration “Taking the Pulse of the Planet” Award
- Office of Naval Research (US Navy / US Marine Corps)
- Regeneron Biomedical Science Award
- Ricoh USA, Inc.
- Society for In Vitro Biology
- Stockholm Junior Water Prize
- US Air Force
- US Agency for International Development (USAID)
- US Metric Association
- Yale Science and Engineering Association

OTHER NATIONAL/INTERNATIONAL AWARDS:

- Lemelson Early Inventor Prize
- Thermo Fisher Scientific Junior Innovators Challenge

The following Special Awards and Recognition are presented on stage during the Awards Ceremony:

- ◆ Arthur Friedman Memorial Science Fair Teachers of the Year – Junior Division and Senior Division
- ◆ BD Awards for “Advancing the World of Health”
- ◆ Broadcom Foundation Coding with Commitment Award
- ◆ Collins Aerospace Fred H. Rohr Award
- ◆ Grand Awards
- ◆ Mickey Award in honor of Ron Mickelson
- ◆ Professional Engineers in California Government Scholarships
- ◆ RED Award - Ronald E. Domb Memorial Award
- ◆ Student Leadership Board (SLB) Awards
- ◆ Taiwanese American Foundation of San Diego
- ◆ Thermo Fisher Scientific Awards



HIGHLIGHTS from the 2023 GSDSEF



In the 69th Annual Greater San Diego Science and Engineering Fair, we had

- 599 students in San Diego and Imperial Counties who submitted proposals for SRC Approval, and over 438 completed a project
- 354 students who were recommended to participate and 338 completed the application process:
- 330 total student exhibitors went through interviews with the judges
- 187 Junior Division student exhibitors submitted projects: 174 Individual Projects, 13 Team Projects
- 151 Senior Division student exhibitors submitted projects: 138 Individual Projects, 13 Team Projects
- 56 schools participated – 55 in San Diego County and 1 in Imperial County
- 29 schools participated in Junior Division
- 27 high schools participated in Senior Division
- 89 projects that qualified for the California Science and Engineering Fair (CSEF)
- 31 projects in Junior Division that were nominated to Broadcom MASTERS
- 4 Grand Awards in Senior Division and 4 Grand Awards in Junior Division
- 4 Grand Award Runners-Up in Senior Division and 4 Grand Award Runners-Up in Junior Division
- 4 Grand Award winners and 2 Grand Award Runners-Up winners in the Senior Division were selected as ISEF Finalists and competed in the 2023 Regeneron International Science and Engineering Fair in Dallas, Texas

CATEGORY AWARDS:

Junior Division: 58 First Place, 71 Second Place, 54 Third Place

Senior Division: 59 First Place, 54 Second Place, 32 Third Place



GRAND AWARDS:

Senior Division Life Science Grand Awards

Sarah Gao, Gr 10, Canyon Crest Academy - ***ISEF Finalist***

Kate Xu, Gr 10, Del Norte High - ***ISEF Finalist***

Senior Division Physical Science Grand Awards

Agastya Sridharan, Scripps Ranch High, Gr 11 - ***ISEF Finalist***

Nicholas Ushe, Gr 11 and Logan Brown, Gr 10, High Tech High

North County - ***ISEF Finalists***

Senior Division Life Science Runners-Up Grand Awards

1st RU: Kara Fan, Gr 12 Westview High - ***ISEF Finalist***

2nd RU: Sanjana Kumar, Gr 11 Francis Parker School - ***ISEF Finalist***

Senior Division Physical Science Runners-Up Grand Awards

1st RU: Saanvi Dogra, Gr 9, Del Norte High- ***ISEF Finalist***

2nd RU: Vishnu Aravind and Alex Kumar, Gr 11, Del Norte High

The Taiwan Award

Vishnu Aravind and Alex Kumar, Gr 11, Del Norte High

Junior Division Life Science Grand Awards

Steven Chen , Gr 7, Pacific Trails Middle School

Lily Long, Gr 8, The Rhoades School

Junior Division Physical Science Grand Awards

Kayley Xu, Gr 8, The Bishop’s School

Brooklyn Owen, Gr 7, Classical Conversations

Junior Division Life Science Runners-Up Grand Awards

Samuel Sternson, Gr 7, The Rhoades School

Dhruv Bantval, Gr 8, Pacific Trails Middle School

Junior Division Physical Science Runners-Up Grand Awards

Keanu Zeller, Gr 7, The Rhoades School

Jake Vignevic, Gr 7, St. Gregory the Great Catholic School

For complete 2023 GSDSEF Results of category award winners, special award winners, and professional society award winners, please check under the About tab on our website, gsdsef.org.

GSDSEF is an Affiliate of the following:

Regeneron International Science and Engineering Fair (ISEF)

California Science and Engineering Fair (CSEF)

Thermo Fisher Scientific Junior Innovators Challenge

70th Annual Greater San Diego Science & Engineering Fair – 2024

Highlights from Affiliated Fairs:

REGENERON International Science and Engineering Fair (ISEF) Results (held in Dallas, Texas in May 2023)

The competition featured over 1600 young scientists from across the US and 64 countries. Approximately one third of students receive an Award. The GSDSEF had 8 student finalists who participated in ISEF in Dallas, Texas: Kate Xu, Agastya Sridharan, Kara Fan, Sanjana Kumar, Saanvi Dogra, Team project: Nicholas Usher and Logan Brown, and Nandana Madhukara (who qualified through CA SEF). GSDSEF students garnered 11 Awards: 5 Grand Awards and 6 Special Awards.



Regeneron ISEF Grand Awards 2023:

Second Award in Computational Biology and Bioinformatics (\$2000 Award): Agastya Sridharan, Scripps Ranch HS

Second Award in Environmental Engineering (\$2000 Award): Sanjana Kumar, Francis Parker School

Third Award in Microbiology (\$1000 Award): Kara Fan, Westview HS

Third Award in Plant Sciences (\$1000 Award): Kate Xu, Del Norte HS

Fourth Award in Robotics and Intelligent Machines (\$500 Award): Nicholas Usher/Logan Brown, High Tech High North

Regeneron ISEF 2023 Special Awards Winners:

Air Force Research Laboratory on behalf of the US Air Force 1st Award (\$750): Agastya Sridharan, Scripps Ranch High

Air Force Research Laboratory on behalf of the US Air Force 1st Award (\$750): Kara Fan, Westview High

Arizona State University: (valued at up to \$52,000 contingent upon enrollment): Sanjana Kumar, Francis Parker School

Central Intelligence Association First Award of (\$1000): Nicholas Usher and Logan Brown, High Tech High North County

Fondazione Bruno Kessler Award to participate in "Web Valley" in Trento, Italy: Sanjana Kumar, Francis Parker

National Security Agency Research Directorate Second Place Award "Principles of Security and Privacy": Agastya Sridharan

California Science and Engineering Fair Results: 89 GSDSEF projects qualified for the California Science and Engineering Fair.

Approximately 900 students participated from all over California. Only one First, Second, Third, and Fourth Awards are given in each category. Categories may award more than one Honorable Mention. 34 projects from the GSDSEF received awards:

- ❖ 14 Junior Division Projects received awards: 2 Firsts, 1 Second, 3 Thirds, 4 Fourths, 4 Honorable Mentions
- ❖ 20 Senior Division Projects received awards: 2 Firsts, 3 Seconds, 2 Thirds, 4 Fourths, 7 Honorable Mentions
- ❖ Three projects won Sponsored Awards presented by outside Sponsor organizations

ThermoFisher Scientific Junior Innovators Challenge (TFSJIC) Results (formerly Broadcom MASTERS)

The 2023 TFSJIC had nearly 2000 applicants from 49 states, Puerto Rico, Guam, and the Mariana Islands which the top 300 were selected. The top 30 finalists were then chosen from this group. Top winners shared \$100,000 in awards.



TOP 300 Finalists:

Omar Abdulaliz, Gr 7, Bright Horizon Academy
Charlotte Capaldi, Gr 7 The Rhoades School
Emily Diep, Gr 7, Connect Acad - Park Village Elem
Ethan Leem, Gr 8, Pacific Trails Middle School
Lily Long, Gr 8, The Rhoades School
Jeyanth Parthasarathy, Gr 7, Pacific Trails Middle
Samuel Sternson, Gr 7, The Rhoades School

Regeneron Science Talent Search 2024

The Regeneron Science Talent Search is the most prestigious science and math competition for high school seniors. The top 300 were chosen from over 2162 students from 712 high schools across 46 states, Washington D.C., Puerto Rico, and ten other countries. The final Top 40 compete for over \$1.8 million in awards. The 2024 winners will be announced on March 12 in Washington D.C.

Top 40 Scholars 2024:

Aarav Arora, Del Norte High School

TOP 300 Scholars 2024:

Aarav Arora, Del Norte High School
Jocelyn Zhang, Del Norte High School

2023 Third Place - \$150,000 - Award Winner (announced March 16, 2023)

Ellen Xu, Del Norte High School



70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
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SENIOR DIVISION

Senior Division - Animal Sciences (ANIM)

101	Mandyam	Tanya	10	Circadian Rhythm Disturbance Affects Running Activity and Gut Microbiome in Rats	Westview High School	S. Halander
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Senior Division - Behavioral and Social Sciences (BEHA)

111	Cesar	Luke	10	Loss Aversion on a High School Level	Central Union High School	L. Rueda
112	Foss	Spencer	11	Testing Priming and Framing with the Ellsberg Paradox	San Diego Jewish Academy	P. Hagarman
113	Garcia	Izel	10	Clothing's Effect on Perceived Professionalism	Central Union High School	L. Rueda
114	Gopinath	Kavya	9	How Positive Words Bring an Impact Scientifically	Del Norte High School	A. Callicot
115	Munoz	Esteban	10	The Relationship Between Confidence and Competition, and Their Effect on Performance	Central Union High School	L. Rueda
116	Nudurupati	Aneesh	11	Hypnotizability and the Prevalence of Psychosomatic Conditions in Adolescents	Mt. Carmel High School	A. Klingborg
117	Zhang	Steve	11	Eyes on the Page: A Study of Visual Attention During Storytime	Francis Parker School	E. Hart

Senior Division - Biochemistry (BCHM)

131	Dresios	Marianthe	11	Integrated Chemistry and Cell-Free Synthetic Biology for Advanced Diagnostics	Carlsbad High School	J. Dresios
132	Ganji Ganji	Vibha Yadav Vidha Yadav	10 10	Targeting the Ribonucleoprotein Complex Assembly as Therapy for Heroin Use Disorder (HUD)	Del Norte High School	N. Ganji
133	Wang	Chloe	11	Virtual Screening and Hit Confirmation of Orthosteric MEK Inhibitors for the Treatment of Pediatric Central Nervous System Tumors	Canyon Crest Academy	E. Gerstin

Senior Division - Biomedical/Health Sciences and Biomedical Engineering (BMDE)

141	Asudani	Ananya	10	Identification of Genetic Disease Markers Associated with Parkinson's Disease Using the Implementation of a Data Analysis Model	Del Norte High School	D. Asudani
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70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Biomedical/Health Sciences and Biomedical Engineering (BMDE) cont'd						
142	Bantval	Dhruv	9	Motion-Sensor Based Sign Language Recognition Glove	Canyon Crest Academy	A. Siegel
143	Bisain	Aditya	9	Fine-Tuning Segment Anything Model for Thyroid Ultrasound Images	Canyon Crest Academy	E. Gerstin
144	Bojja Maturi	Rohan	9	Portable Real-Time Machine Learning	Del Norte High School	J. Maturi
		Nikhil	9	Asthma Management System for Exacerbation Prediction		
145	Dogra	Saanvi	10	3D Polymer Composite of Porous Silicon Nanoparticles for Peripheral Nerve Regeneration with a BDNF Model	Del Norte High School	A. Callicott
146	Du Lee	Kevin	11	Multi Compartment Brain Imaging with	Del Norte High School	J. Lo
		David	11	MRI		
147	Fan	Leanne	10	Photobiomodulation on In-Vivo and In-Vitro Wound Models Under Simulated Microgravity for Future Space Travel	Westview High School	D. MacMartin
148	Ji	Isabel	9	Affordable Open Ear Headphone-Based Hearing Aid as an Alternative to \$1000 Open-Fit Hearing Aid	Torrey Pines High School	K. DeVico
149	Kalapala	Isabella	9	The Mystery of Memory in Alzheimer's	Mission Vista High School	N. German
150	Kalyanaraman	Anirudh	11	Fluid Shear Stress Enhances the Metastatic Potential of Human Colon Cancer Cells: A Critical Role of Nitric Oxide	Mt. Carmel High School	K. Wytmans
151	Khattar	Zinia	11	Integrated Stress Response Activation Discovered to Be Predominant Response to Mitochondrial Dysfunction: A Therapeutic Target Advancement	Del Norte High School	A. Khosla
152	Kowsari	Kian	10	Evaluating ML Models for Relative Skin Moisture Measurement to Detect Pressure Injury	Scripps Ranch High School	P. Fowler
153	Liang	Jaelyn	9	Computational Immunomimicry for Targeted Cancer Immunotherapy	Westview High School	M. Christopher
154	Rupareliya	Rhea	11	Analysis of Prostate Deformation in MRI During Prostate Cancer Treatment	Canyon Crest Academy	E. Gerstin
155	Sheng	Raymond	11	An Arduino-Based Platform to Incentivize Consistent Physical Activity with Cryptocurrency Reward	Del Norte High School	JC. Cheskaty
156	Tian	Christina	10	IL4/13 Indirectly Inhibits TNF-Induced CFB Expression	Westview High School	D. MacMartin
157	Wang	Ryan	9	Low-Cost Home-Use Wearable Kit to Predict and Prevent Sports Injuries	Westview High School	S. Halander

70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
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Senior Division - Biomedical/Health Sciences and Biomedical Engineering (BMDE) cont'd

158	Zhang	Sydney	11	Design and Usability Study of a Point of Care mHealth App for Early Dry Eye Screening and Detection	Westview High School	S. Halander
159	Pallapotu	Eshika	10	Creating Novel Cancer Vaccines for Breast Cancer Using iPSC-derived Antigens	Del Norte High School	R. Pallapotu

Senior Division - Cellular and Molecular Biology (CELL)

171	Figueroa	Alyna	12	The Effect of Ozone on Epithelial Cell Growth	Central Union High School	L. Rueda
172	Hao	Yunshu	11	Enable AAV to Target NK Cells for CAR Cell Therapy in Vivo	Sage Creek High School	T. Andersson
173	Leem	Ethan	9	Paraquat Exposure Triggers Microglial Activation through Neuroinflammatory Pathways	Canyon Crest Academy	M. Zerwekh
174	Nandhimandalam	Medha	12	Mechanisms of Somatic Gene Variation	Westview High School	D. Herr
175	Ni	Gavin	11	Effects of a Stress-protective Protein from Tardigrade on Stress-resistance and Aging of Yeast	La Jolla Country Day School	N. Hao
176	Patel	Shreeya	11	Activation of Tumor-Suppressor p53 in Oncogene-Induced Senescence	Del Norte High School	C. Craig
177	Tran	Sophia	11	Exploring Anatomical Variability in the Cerebral Cortex of the Human Brain	Scripps Ranch High School	J. Annese

Senior Division - Chemistry (CHEM)

191	Lee	Juhyeok	11	Using pH to Control the Hydrophobic or	Scripps Ranch High	P. Fowler
	Park	Yechan	11	Hydrophilic Character of Silicon Wafers	Otay Ranch High	A. Masuy

Senior Division - Computational Biology and Bioinformatics (CBIO)

201	Aravind	Medha	9	Developing a Machine Learning Solution for Discovering Novel miRNA Biomarkers for Gastric Cancer	Del Norte High School	M. Nathan
202	Bhatt	Prakruti	10	E-venomics: Revolutionizing Drug Discovery with In Silico Exploration of Snake Disintegrins for $\alpha\beta3$ Integrin Inhibition in Cancer Cells	Del Norte High School	D. Vyas
203	Garg	Aarushi	11	A Novel Deep Learning Technique to Predict Rhegmatogenous Retinal Detachment Using Ultrawide Fundus Images	Canyon Crest Academy	E. Gerstin

70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Computational Biology and Bioinformatics (CBIO) cont'd						
204	Hernandez	Diego (Toa)	11	AI to the Rescue! New Technology Sees What Doctors Cannot	Sweetwater High School	M. Ranganathan
205	Hou	Henry	9	One-Drug-Fits-All: Identifying Multi-Target Drugs with Machine Learning for Rheumatoid Arthritis	The Bishop's School	D. Cameron
206	Jeyaprakash	Arunraj	11	A Prediction Diagnostic Model of Glioblastoma Using Exosome Based miRNA Gene Expression in Glioma Types	Canyon Crest Academy	E. Gerstin
207	Kao	Emma	11	Utilizing an Autoencoder to Denoise Confocal Microscopic Images	The Bishop's School	M. Jaiclin
208	Kathiravan	Gautam	11	Ensemble of Deep Learning Models for Multi-Class Classification of COVID-19, Pneumonia, Tuberculosis, and Lung Opacity in Chest X-Ray Images	Canyon Crest Academy	D. Celniker
209	Khushu	Ronit	10	Novel Method of Using 3D View for Personalized Health Monitoring and Insights	Francis Parker School	J. Pierce
211	Sadek	Adham	10	Using AI to Improve Type 1 Diabetes Management	Canyon Crest Academy	A. Ashour
212	Sun	Anne	11	Alcohol and Anxiety Comorbidity through Epigenetics	San Marcos High School	S. Shade
212	Sun	James	11	Identifying Gene Targets for Biocontainment of <i>C. ljungdahlii</i> Using Deep-learning Tuned Metabolic Models	Canyon Crest Academy	E. Gerstin
215	Vivek	Nithika	10	Deep Learning Multi-Modal Melanoma Detection	Del Norte High School	K. Ramesh
216	Wadhvani	Dishti	11	Early Detection of Sepsis in Hospital Patients	Del Norte High School	A. Wadhvani
217	Xuan	Kailin	10	Smart Analytics for Weight Management: A Data-Driven Approach to Addressing Obesity and Anorexia	The Bishop's School	D. Cameron
218	Yadav	Anvay	10	A Federated Learning Framework for Machine Learning Tasks with Different Omics Data Types	AAA MS Test School	M. Rao
219	Yuan	Ryan	11	Epilepsy Diagnosis Using miRNA Biomarkers and Machine Learning	Canyon Crest Academy	E. Gerstin
220	Zhang	Brianna	9	The Relationship Between Covid-19 Vaccines and Outcomes	Canyon Crest Academy	M. Zerwekh

Senior Division - Computer Science and Systems Software (COMP)

231	Arul	Vasant	12	Machine Learning Based Evaluation of Dehazing Algorithms	Canyon Crest Academy	T. Mauro
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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Computer Science and Systems Software (COMP) cont'd						
232	Backues	Alexander	11	Improving PET Scan Resolution Using Machine Learning	Canyon Crest Academy	E. Gerstin
233	Dagar	Arnav	10	ARFSNet - Deep Learning for Amblyopia Risk Factor Screening	Canyon Crest Academy	K. Hare
234	Dai	Nathan	12	Performance Tradeoff in ML-Based Intrusion Detection Systems: Efficacy vs. Resource Usage	Canyon Crest Academy	A. Siegel
235	DeMott	Luke	10	Investigating Weather Inputs for Neural Network Based Demand Side Forecasting in Home Energy Management Systems	La Jolla High School	R. DeMott
236	Desai	Ella	11	Statistical Analysis for Deep Learning Model Selection	Canyon Crest Academy	A. Mauro
237	Devulapalli	Aneesh	11	Immediate Diabetic Retinopathy Detection Using An Image-Based Machine Learning Model	Canyon Crest Academy	D. Celniker
238	Feng	Eric	9	Finding the Cause of Hallucinations Created by Generative Artificial Intelligence	The Bishop's School	M. Jaiclin
239	Khushu	Riya	10	A Novel Gunshot Detection and Localization System for Public Safety	Francis Parker School	J. Pierce
240	Liu	Kaelyn	10	Novel Machine Learning Approach to Prevent Misuse of Pharmaceutical Pills	Canyon Crest Academy	K. Shakeri
241	Mondal	Raunak	11	Are LLMs Ready to Deliver Autism Inclusion?	Del Norte High School	J. Cheskaty
242	Munshi	Ronit	11	Making a Model That Can Predict Which Jobs Are Real and Which Jobs are Fake in the Most Efficient Method Possible	Canyon Crest Academy	D. Celniker
243	Perez	Gavin	9	Program Complexifying Passwords in Ways Unique to a System	The Cambridge School High School	M. Mayne
244	Ray Chaudhuri	Shounak	10	Using Computer Vision for Object Detection/Classification on Roads of Developing Countries	Francis Parker School	J.P. Pierce
245	Ryu	Wonhee	10	Document Search Using Sentence Embedding	Canyon Crest Academy	K. Shakeri
246	Saxena	Parth	10	Streamlining Virtual Education Using Generative Artificial Intelligence and High-Performant Large Language Models	Scripps Ranch High School	P. Fowler
247	Sun	Ethan	11	TrustworthyAI: Adversarial Attacks and Defensive Strategies in Self-Driving Systems Using Computer Vision and Artificial Intelligence	The Bishop's School	M. Jaiclin

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Computer Science and Systems Software (COMP) cont'd						
248	Xia	Olina	10	AI-Powered GIS-Based Mathematical Modeling Investigations on Climate Impacts of Transportation	Rancho Bernardo High School	B. Xia
249	Xu	Kayley	9	A Comprehensive Approach to Addressing Respiratory Disease	The Bishop's School	D. Cameron
250	Tran	Rex	11	"If Humans Evolved, Machines Should Too": Novel Evolutionary-Merged Ensemble Multi-Layer Perceptron Model	Scripps Ranch High School	P. Fowler
Senior Division - Earth and Environmental Sciences (EAEV)						
261	Amaro Sandoval	Joanna Leslie	11 11	To What Extent Does Sewage from Tijuana, Mexico Affect the Waters in San Diego	Bonita Vista High School	J. Ekstein
262	Elefante Sanchez	Nevaeh Sofia	12 12	To What Extent Does Urbanization and Urban Population Affect the Time We Have on Earth Due to Climate Change?	Bonita Vista High School	J. Ekstein
263	Estrada	Samuel	10	The Levels of Formaldehyde in the Imperial Valley	Holtville High School	B. Sorenson
264	Fincher	Danica	11	Charcoal Filter Efficiency at Filtering Heavy Metals in Water	Bonita Vista High School	J. Ekstein
265	Gallegos	Daniela	12	Hedwig Moss (<i>Hedwigia ciliata</i>) Ability to Filter Arsenic in Bodies of Water	Central Union High School	L. Rueda
266	Gandevia	Naina	10	Effects of Air Quality on Asthma	Holtville High School	B. Sorenson
267	Gao	Sarah	11	From Trash to Treasure: Fighting Desertification with Biodegradable Soil Amending Hydrogels Synthesized from Food Waste	Canyon Crest Academy	E. Gerstin
268	Gutierrez Johnson	Briana Kendall	11 12	To What Extent Does Thermal Pollution Affect the Growth and Development of Duckweed?	Bonita Vista High School	J. Ekstein
269	Hernandez Hutchins	Natalie Elijah	11 11	Testing pH Levels Along San Diego Beaches and Its Correlation to Acidification	Bonita Vista High School	J. Ekstein
270	Lau	Max	11	Using Reflectance Spectroscopy to Detect Plant Stress in Harmful Soil Salinity Levels	Westview High School	K. Klausung
271	Mowva	Tanvi	10	Eco-Friendliness of Mineral and Chemical UV Particles in Sunscreen Products	Del Norte High School	J. Cheskaty

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Earth and Environmental Sciences (EAEV) cont'd						
273	Qiu	Nathan	10	Remote Sensing for Disaster Response - Using Deep Learning Neural Networks to Classify Infrastructure Damage from Aerial and Satellite Imagery	Canyon Crest Academy	K. Shakeri
274	Sengupta	Srija	11	Effects of Temperature and Aeration on Dissolved Oxygen Levels in Lakes	Westview High School	S. Halander
275	Yao Zeng	Minghui Sophie	10 10	Today's Technology for Today's Environment - Using AI to Enhance Invasive Plant Removal	The Bishop's School	M. Jaiclin
276	Zeng	Lilian	10	Forever Chemicals? Maybe Not! Bioremediation of Perfluoroalkyl Substances in Waste-water Using Active Carbon and Plate-based White Rot Fungi	Del Norte High School	H. Xu
277	Zhang	Emily	11	Plant Seed Mucilages: A Novel Adsorbent and Flocculant for Maximized Textile Dye Removal	Canyon Crest Academy	E. Gerstin
278	Zhang	Austin	10	Investigating the Effects on Plant Growth and Disposal Methods for Various Types of Used Batteries	Del Norte High School	S. Li

Senior Division - Engineering: Electrical, Mechanical, and Robotics (EEMR)

291	Battikha	Alex	11	Using Artificial Intelligence and Unmanned Aerial Vehicle for Aid on Environment Remediation	Westview High School	J. Silberman
292	Brown	Logan	11	Democratization of Metal Fabrication Through a Novel Electrochemical Machining Process	High Tech High North County	C. Sailor
293	Goel	Khushee	10	An Intelligent Fire Extinguisher for Outdoor Home Protection	Scripps Ranch High School	P. Fowler
294	Jaiswal	Rachit	11	AI and Robotics: Extracting Plastic from the Ocean	Del Norte High School	T. Roty
295	Kapoor	Sanya	10	Optimization of Energy Consumption at Wastewater Treatment Plants	Del Norte High School	S. Kapoor
296	Kim	Angelina	11	An Autonomous Unmanned Aerial Vehicle (UAV) System for Ocean Hazard Recognition and Rescue: Scout and Rescue UAV Prototypes, Findings, and Next Steps	The Bishop's School	A. Pelletier
297	Mansour	Malik	9	Solar Powered River Cleansing Robot	Bright Horizon Academy	N. Nasereldin
298	Patil	Yash	11	Enhancing Prosthetic Functionality Through the Use of Compliant Mechanisms and 3D Printing	Sage Creek High School	S. Patil

70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
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Senior Division - Engineering: Electrical, Mechanical, and Robotics (EEMR) cont'd

299	Salemi	Sherwin	11	3D Particle Image Velocimetry Using Scanning Laser Planes and Optical Flow	High Tech High North County	C. Sailor
300	Sood	Rohin	11	Differential, Multi-Jointed Robotic Arms with Inverse Kinematical Adaptive PID Control for Telesurgery	Del Norte High School	A. Callicott

Senior Division - Engineering: Energy, Materials, and Transport (EEMT)

311	Coronel-Villarreal	Hector	12	Properties of Different Bioplastics	Central Union High School	L. Rueda
312	Dresios	Demetrios	11	Developing a Novel Flexible UV Resin for Use in Scalable Micro-Photolithography Manufacturing of Biomimetic Adhesives	Carlsbad High School	A. Velentza
		Vassilios	11			
313	Gao	William	10	Transformer-Based Generative Models Enable Smart Polymer Design for Carbon Capture	Canyon Crest Academy	H. Lee
314	Giometti	Collin	11	A Physarum Simulation Approach to Macrogrid Topology Modeling	San Marcos High School	S. Shade
315	Gupta Kuruvadi	Aryahi	12	The Durability, Longevity, and Affordability of the Different 3D Printed Full Denture Materials	Canyon Crest Academy	T. Mauro
		Krishna	11			
316	Kim	Hudson	11	A Novel 3 Stage Ionic Plasma Thruster for Interplanetary Travel and Spacecraft Propulsion	Westview High School	B. Meagher
317	Pruitt	Vivian	11	To What Extent Does Color Affect the Effectiveness of Solar Powered Energy	Bonita Vista High School	J. Ekstein

Senior Division - Mathematics (MATH)

331	Hyun	Jeonghoo	10	The Optimal Number of People for Indoor Physical Distancing Using Pigeonhole Principle	Torrey Pines High School	J. Newell
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Senior Division - Microbiology (MCRO)

341	He	David	10	Utilizing Genetically Engineered Ocean Bacteria to Degrade Microplastics	Westview High School	S. Halander
342	Hyun	Jihoo	9	Creating Paper with Bacterial Cellulose: Toward the Sustainable Production of Bioplastic	Canyon Crest Academy	E. Gerstin

70th Annual Greater San Diego Science & Engineering Fair - 2024

Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
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Senior Division - Microbiology (MCRO) cont'd

343	Raymond	Mason	10	Resistance of Multi-pathway Inhibitors and Antibiotics Combating <i>Staphylococcus epidermidis</i>	Steele Canyon High School	S. Weiner
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Senior Division - Physics and Astronomy (PHYS)

351	Badal	Rohan	11	Optical Flow-based Thruster Control for Asteroid Landers	University City High School	S. Badal
352	Chandra	Vikramaditya	11	Astronomical Image Deconvolution Using a Novel Deep CNN Architecture with Minimal Artifacts	San Marcos High School	S. Bireddy
353	Chen	Trevor	11	Enabling Ultra-Broadband High-Efficiency Gratings for High-Power Infrared Single-Cycle Lasers	Westview High School	S. Halander
354	Chen	Jennifer	10	Gate Rescheduling for Quantum Circuit Error Mitigation on IBM Quantum Computers	Canyon Crest Academy	A. Siegel
355	Feng Ni	Jeremy Matthew	11 11	A High-Resolution Gamma Ray Detector for Positron Emission Tomography Using Liquid Xenon	The Bishop's School Canyon Crest Academy	M. Jaiclin E. Gerstin
356	Madhukara	Nandana	11	Analyzing the Effects of Higher-Order Terms in the Nonlinear Dynamics of Galactic Systems	Canyon Crest Academy	E. Gerstin
357	Mandadi	Krish	11	Developing Novel Spectral Unmixing Technique for Stellar Spectroscopy Using Artificial Intelligence	Canyon Crest Academy	S. Mandadi
358	Susan	Rachel	9	Our Effect on Light Pollution	Mission Vista High School	N. German

Senior Division - Plant Sciences (PLNT)

371	Arca Marquez	Isabella Yesica	11 11	To What Extent Does Duckweed (<i>Lemnoideae</i>) Improve Water Quality and Raise/Lower pH in Polluted Waters?	Bonita Vista High School	J. Ekstein
372	Broudy Manaligod	Ariel Trevor	11 11	To What Extent Does Eroded Soil Affect the Growth and Germination of <i>Raphanus sativus</i> ?	Bonita Vista High School	J. Ekstein
373	Contreras Gonzalez	Diego Jerry	11 11	The Effect of Synthetic vs. Organic Fertilizer on Lima Bean Growth	Bonita Vista High School	J. Ekstein
374	Ewert	Jackson	11	How Does Organic Fertilizer Affect the Growth and Germination of Radishes?	Bonita Vista High School	J. Ekstein

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Plant Sciences (PLNT) cont'd						
375	Higuera Rodelo	Sebastian	12	The Effects of Water Pollution on the Growth and Germination of Wheat Grass Seeds	Bonita Vista High School	J. Ekstein
376	Ibarra Villegas-Palacios	Melany	11	The Effects of Soil Pollution Caused by	Central Union High School	L. Rueda
		Ana	12	Human Impacts on Transpiration Rates of Plants		
377	Ilko	Hannah	11	To What Extent Does Runoff Affect the Growth and Germination of Wheat Grass (<i>Triticum aestivum linn</i>)	Bonita Vista High School	J. Ekstein
378	Iniguez Takaki	Paulina	11	The Effect of Runoff Pollutants on	Bonita Vista High School	J. Ekstein
		Victoria	11	Wheatgrass		
379	Lyle	Haley	11	To What Extent Does Salinization Affect Growth and Germination	Bonita Vista High School	J. Ekstein
380	Monroybeltran Ramirez	Gian	11	To What Extent Do Chemicals Within Plastics	Bonita Vista High School	J. Ekstein
		Alena	11	Affect the Growth/Germination of Wheatgrass?		
381	Rhoades	Maxwell	11	How Does the Presence of Pesticides Affect the Growth of Duckweed?	Bonita Vista High School	J. Ekstein
382	Zhang	Elvin	10	A Novel Stress Early Detection Method through Infrared Thermal Imaging Phenotyping	Del Norte High School	J. Cheskaty

JUNIOR DIVISION

Junior Division - Animal Sciences (ANIM)

501	Alexander	Grant	6	Effect of High Temperature on Honeypot Ants	La Jolla Country Day School	M. Bessler
502	Harris	Gabriella	7	Does the Food You Feed Harvester Ants Affect Their Productivity?	Nazareth School	M. Reed
503	Mumin	Abdullah	8	Effect of an Electromagnetic Field On Planaria	Bright Horizon Academy	N. Naserelddin
504	O'Donnell	Sydney	6	Can Domestic Chickens Be Trained to Respond to Color Commands?	The Rhoades School	R. Hunker
505	Paband	Khadija	8	Effect of Precise Medication on Planaria Generation	Bright Horizon Academy	N. Naserelddin
506	Snyder	Daniel	8	Controlling the Caterpillar Population Using the Targeted Application of Arthropods	San Diego Hebrew Day School	J. Rivard
507	Hilinski	Ava	8	Parasites in Paradise	Eastlake Middle School	A. Thacker

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Behavioral and Social Sciences (BEHA)						
511	Adatto	Meira	8	The Effect of Videos on Kids	San Diego Hebrew Day School	J. Rivard
512	Altman	Sadie	8	Change of Personality Type	San Diego Hebrew Day School	J. Rivard
513	Aly Saad Aly	Princess-Hafsah	7	Does Typing or Writing Notes Really Make a Difference?	Bright Horizon Academy	N. Naserelddin
514	Delapp	Jude	7	Does Different Font Styles Affect Reading Comprehension?	Nazareth School	M. Reed
515	Eilemberg	Elie	8	Can the Placebo Effect Change Your Reaction Time?	San Diego Hebrew Day School	J. Rivard
516	Essa	Reem	7	Visual and Auditory Reaction Times in Relation to Preferred Learning Styles	Bright Horizon Academy	N. Naserelddin
517	Francy	Alexandre	7	Delayed Gratification and Academic Performance	St. Gregory the Great Catholic School	C. Girard
518	Mansur	Emma	8	Can People Tell Real Smell Over Artificial Smell? And Does Peppermint Help or Hurt Your Sense of Smell?	San Diego Hebrew Day School	J. Rivard
519	Martinez	Andrea	7	Can People Tell the Difference Between Natural and Artificial Scents?	Nazareth School	M. Reed
520	Parker	Angelina	7	Comparing Different Reaction Times for Different Visuals	Mt. Helix Academy	K. MacDonald
521	Perham	Josephina	8	Do Women Put Themselves, Animals, or Price First When Purchasing Cosmetics?	The Children's School	D. Quincannon
522	Purmul	Maryam	8	Investigating Teachers' Ability to Distinguish Human and AI-Generated Writing	Bright Horizon Academy	N. Naserelddin
523	Sarles	Jake	7	Art Challenge: Can You Identify Which Artworks Are AI Generated?	The Rhoades School	R. Hunker
524	Schere	Bella	8	Does the Use of Motivational Interviewing Affect Student Effort?	The Children's School	D. Quincannon
525	Snideman Greene	Esteban Evan	8	Do You Remember More by Writing or Typing?	Stella Maris Academy	M. Flores
Junior Division - Biochemistry (BCHM)						
531	Aly	Omar	8	Does Temperature Affect the Amount of Carbohydrates in Food?	Bright Horizon Academy	N. Naserelddin
532	Bantval	Maya	7	Effect of Fructose Diets on Wild type and Parkinson's Strains of <i>Caenorhabditis elegans</i>	Pacific Trails Middle School	K. Chen

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Biochemistry (BCHM) cont'd						
533	Dickens	Benjamine	8	Relation Between Oxidation and Temperature	Chula Vista Middle School	T. Tom
534	Khan	Mohammad	8	How Does Storage of Vegetables Affect Their Vitamin C Content?	Bright Horizon Academy	N. Naserelddin
535	Kroes	Alejandra	8	How Does the Type of Flour Affect a Cookie?	De Portola Middle School	M. Bridges
536	Rothstein	Nathan	8	UV Lights Influence on Bacteria at Different Heights	San Diego Hebrew Day School	J. Rivard
537	Sebalj	Keira	6	Gummy Bear Osmosis	St. Peter the Apostle Catholic School	M. Berens
538	Siddique	Maleeha	8	Gluten-Free vs. Gluten: Xanthan Gum Edition	De Portola Middle School	M. Bridges
Junior Division - Biomedical/Health Sciences, and Biomedical Engineering (BMDE)						
551	Abadi	Aliza	8	The Effect of Blue Light on Sleep	San Diego Hebrew Day School	J. Rivard
552	Abdulaziz Ehsan	Omar Anabia	8 7	Early Detection of Bradykinesia and Tremors in Parkinson's Disease Using a Wearable Inertial-Measurement-Unit	Thurgood Marshall Middle School	A. Abdurrah
553	Diep	Emily	8	A Single Case Pilot Study of an AI-driven Speech Therapy Game for Children with Articulation Challenges Using a Smart Bracelet	Connect Academy Poway Unified	J. Teixeira
554	Kalakota	Veera	8	4S Ranch Awareness of Probiotics and Their Role in Promoting Gut Health	Oak Valley Middle School	B. Gonzalez
555	Parthiban	Sidhaarth	8	Mechanisms of Monocyte Cell Death in Nicotine Exposure	The Cambridge School	M. Mayne
556	Sahardiid	Munirah	7	HealthBand	Bright Horizon Academy	N. Naserelddin
557	Siegel	Hudson	8	New Methods to Discover Naegleria fowleri Using Commercially Used Dye	The Children's School	T. Brown
558	Singer	Sara	8	Balance in Dancers vs. Non-Dancers	San Diego Hebrew Day School	J. Rivard
559	Sipper	Brady	7	Does the Dye in Tinted Sunscreen Affect Its Performance?	Nazareth School	M. Reed

Junior Division - Chemistry (CHEM)

581	Amin	Ilyas	7	Colorful Chemistry: Creating Natural pH Indicators	Bright Horizon Academy	N. Naserelddin
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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Chemistry (CHEM) cont'd						
582	Brough	Jonathan	6	Electrolytes in Drinks	La Jolla Country Day School	M. Bessler
583	Chen	Zhizhen	7	Effect of Temperature on Oxidation Speeds	The Cambridge School High School	M. Mayne
584	Collins	Finley	7	How Does Sugar Affect Cookies	Mt. Helix Academy	K. MacDonald
585	Croff	Gregory	7	Which Animal Fat Makes the Hardest Bar of Soap?	Nazareth School	M. Reed
586	Dodi Ahmad	Fuaad	7	Does Cooking Method Affect Protein	Bright Horizon Academy	N. Nasereldin
		Yusuf	7	Content?		
587	Fitzgerald	Myla	8	Spherification vs. pH: A Molecular Gastronomy Experiment	De Portola Middle School	M. Bridges
588	Hellbusch	Brooklyn	7	Temperature vs. Glow Sticks: Are Glow Sticks Affected?	St. Gregory the Great Catholic School	C. Girard
589	Raschtschenia	Stasha	7	Frozen vs. Fresh	Mt. Helix Academy	K. MacDonald
590	Stoneman	Jenna	8	Freezing Point of Ice Cream	De Portola Middle School	M. Bridges
591	Wrotslavsky	Alexandra	8	Sunscreen and Pollution	San Diego Hebrew Day School	J. Rivard
592	Zwolinski	John-Paul	7	The Effects of Temperature on Salt Crystal Growth	St. Gregory the Great Catholic School	C. Girard

Junior Division - Computational Biology and Bioinformatics (CBIO)

601	Kandula Ramesh	Pranavi	6	Heart Failure Prediction Using ML Algorithms	Oak Valley Middle School	R. Marudharaju
		Pavishya	8			
602	Kathiravan Vinayagam	Yaalini	7	Early Detection of Scalp and Facial Diseases	Pacific Trails Middle School	M. Mareth
		Arunchalam	8	Using Selfies and Artificial Intelligence		

Junior Division - Computer Science and Systems Software (COMP)

611	Bhatia	Rishabh	6	Efficacy of Machine Learning Algorithms in Detecting Misinformation	The Rhoades School	R. Hunker
612	Harbin	Samira	8	Is AI Art Consistent?	Chula Vista Middle School	T. Tom
613	Huh	Junyoung	7	Determining Water Consumption Based On AI	La Jolla Country Day School	N. Parker
614	Kamshad	Mikhael	8	Object Classification Headset for Assisting the Blind	San Diego Hebrew Day School	J. Rivard

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Computer Science and Systems Software (COMP) cont'd						
615	Zhou	Sophia	8	Password Cracking	La Jolla Country Day School	N. Parker
616	Zubaidi	Ahmad	8	VR: A Solution to Dementia	Bright Horizon Academy	N. Naserelddin
617	Chavan Vaka	Avni Samart	8 8	Weather Prediction	Oak Valley Middle School	R. Vaka

Junior Division - Earth and Environmental Sciences (EAEV)						
631	Alcanciado	Frankie	7	Eco-friendly Food Transport	Nazareth School	M. Reed
632	Ally Jones	Remy Kira	8 8	How Well Do Plants Grow on Mars vs. Earth?	St. Michael's School - Poway	J. Poling
633	Bi	Mia	7	Is Your Sunscreen Really Safe for the Ocean?	La Jolla Country Day School	N. Parker
634	Blais Samady	Embry Ariana	7 7	Documenting Native Fauna in Aquatic Suburban Settings	The Rhoades School	R. Hunker
635	Castaneda Martinez	Emilio	8	Is There Total Dissolved Solids in Our Drinking Water?	Chula Vista Middle School	T. Tom
636	Chen	Steven	8	Synthesizing Living Materials for Coral Reef Regeneration	Pacific Trails Middle School	M. Mareth
637	Martinez	Ian	8	Can Biodegradable Hydrogels Help Soil Retain Moisture?	Chula Vista Middle School	T. Tom
638	Musse	Omar	8	Solar-Powered Saline Water Purification System	Bright Horizon Academy	N. Naserelddin
639	Onwuchekwa	Uma	8	The Effects of Rock Tumbling Methods on Gemstone Smoothness	De Portola Middle School	M. Bridges
640	Ravi	Medha	8	Quantifying Heat Emissions from Alternatives to Synthetic Grass	The Rhoades School	R. Hunker
641	Roa Albarracin	Andres	8	Global Warming in Relation to Hurricanes	St. Mary Star of the Sea School	B. Klicsu
642	Roy	Amelie	7	The Acid Rain Avenger: Mod-Podge® to the Rescue!	San Diego French American School	A. Mobley
643	Siddiqui	Aminah	8	Affordable Water Filtration for Developing Countries	Bright Horizon Academy	N. Naserelddin
644	Tipirneni	Siri	8	Native Water-Efficient Indoor Living Walls: Mitigating Air Quality, Heat Challenges in Cities	Carmel Valley Middle School	S. Fredin
645	Yang	Matthew	7	Finding an Optimal Strategy to Separate Oil and Water in Our Oceans from Oil Spills	The Cambridge School High School	M. Mayne

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Engineering: Electrical, Mechanical, and Robotics (EEMR)						
651	Anello Vanderpump	Dominic Alex	7 7	Improved Turn Signal Gloves	The Children's School	T. Brown
652	Arulselvan Vinayagam	Adhiban Vishwanathan	8 8	GridPatrol: AI Powered Aerial Patrol for Safe Power Transmission	Pacific Trails Middle School	M. Mareth
653	Brocius	Ashton	8	AlarmMe: Elevating Your Morning, One Step at a Time	The Children's School	T. Brown
654	Cottrell	Oliver	6	Automatic Hockey Puck Passer	La Jolla Country Day School	N. Parker
655	Gobiecki	Nathan	7	Is It Possible to Regenerate a Prius Battery Pack?	Nazareth School	M. Reed
656	Green	Dylan	6	Characterization of Residential Environments on Received Wi-Fi Signal Levels	The Rhoades School	R. Hunker
657	Green	Joie	6	It's Roller Coaster Science: How Many Loops Can a Car Make	Gillispie School	B. Belsha
658	Henckels Senthil	Declan Guhan	8 8	Smart Walker	Pacific Trails Middle School	M. Mareth
659	Hernandez	Elias	8	How Do Electric Guitars Work	De Portola Middle School	M. Bridges
660	Kadry	Jumana	8	What is the Best Innovative Solution to Clean Space Pollution?	Bright Horizon Academy	N. Naserelddin
661	Miller	Issachar	8	Creating Stronger Electromagnets with Different Rare-earth Metals	San Diego Hebrew Day School	J. Rivard
662	Ong	Nicholas	7	Binary Communication Using Lasers	La Jolla Country Day School	N. Parker
663	Ouchmame	Zackaria	8	Smart Medicine Cabinet for Dementia Patients 2	Bright Horizon Academy	N. Naserelddin
664	Peralta	Joseph	7	How to Decrease or Increase the Wind Turbines Power	St. Gregory the Great Catholic School	C. Girard
665	Ron	Ayelet	6	LED Headboard	La Jolla Country Day School	M. Bessler
666	Salem	Yusra	6	A Vibrating Exercise Band for the Deaf	Bright Horizon Academy	N. Naserelddin
667	Sanford	Aiden	7	Determining the Amount of Electrical Current	St. Gregory the Great Catholic School	C. Girard
668	Thaper	Ahran	6	Can Household Vent Currents Be Harnessed to Produce Energy?	The Rhoades School	R. Hunker

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
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Junior Division - Engineering: Electrical, Mechanical, and Robotics (EEMR) cont'd

669	Zhu	Virginia	8	Smart Watering System: Electronic Sensor	Oak Valley Middle School	Y. Yu
670	Zhuang	Ryan	6	Testing Performance of a Rotating Solar Panel versus a Flat Solar Panel	La Jolla Country Day School	M. Bessler

Junior Division - Engineering: Energy, Materials, and Transport (EEMT)

681	Allen	Eva	8	Which Homemade Glue Works Best?	De Portola Middle School	M. Bridges
682	Allport	Alexander	8	Can Coffee Grounds Save Homes? The Effect of Coffee Grounds on Mudbricks	The Children's School	D. Quincannon
683	Brooks	Lachlan	6	Cello Bow Grip Guide	La Jolla Country Day School	M. Bessler
684	Day	Samuel	8	How Increasing a Blade's Aspect Ratio Affects the Amount of Lift Produced	De Portola Middle School	M. Bridges
685	Dignan	Aiden	7	Which Sunglass Lens is the Most Protective Against UV Rays	Nazareth School	M. Reed
686	Hauser	Eli	8	HydroSurf	The Children's School	T. Brown
687	Jacka	Maverick	8	Hydraulic Elevators	Mt. Helix Academy	K. MacDonald
688	McGrath	Jackson	8	Energy Saving Roofing Tiles	The Children's School	T. Brown
689	Mensah-Baah	Danielle-Elizabeth	7	3D-Printed, Accessible, and High-Quality Shoes to Replace Environmentally-Damaging Alternatives	Nazareth School	M. Reed
690	Nahumzon	Aviv	8	Resistance of Different Buildings Against an Earthquake	San Diego Hebrew Day School	J. Rivard
691	Pacente	Jack	8	Improving Impact Strength of Polyethylene Terephthalate Glycol (PETG) Through Annealing	Mt. Helix Academy	K. MacDonald
692	Parthasarathy	Jeyanth Narayan	8	Reducing Motion Sickness Caused By Regenerative Braking Systems	Pacific Trails Middle School	M. Abelmann
693	Schuh	Chloe	7	Portable Boat Desalination Device	The Children's School	T. Brown

Junior Division - Microbiology (MCRO)

711	Adato	Tessy	8	Water Bottle Safety	San Diego Hebrew Day School	J. Rivard
712	Anderson Fountaine	Abby Cooper	6 6	Don't Be Gross, Clean Your Produce	St. Peter the Apostle Catholic School	M. Berens

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Microbiology (MCRO) cont'd						
713	Behnawa	Muhammad	8	Bacteria in Bagged Salads	Bright Horizon Academy	N. Naserelddin
714	Cao Muller	James	8	Identification of Microorganisms that Effectively Degrade Compostable Polymers	Muirlands Middle Carmel Mountain Middle	L. Trombley
		Vera	8			J. Yang
715	Capaldi	Charlotte	8	Are Antibiotic Resistant Bacteria Present in Local Water Sources?	The Rhoades School	R. Hunker
716	Castillejos	Audrey	8	A Comparison of Disinfectants Based on Brand and Type	De Portola Middle School	M. Bridges
717	Dieujuste	Ali	8	Which is the Better Disinfectant: Clorox or Seventh Generation	De Portola Middle School	M. Bridges
718	Fernandez	Amaya	8	Bacteria on City Buses	Chula Vista Middle School	T. Tom
719	Hammad	Ida	7	Preserving Food	Bright Horizon Academy	N. Naserelddin
720	Ouznali	Duaa	7	Effect of Antibiotics on Bacterial Growth: A Comparative Study	Bright Horizon Academy	N. Naserelddin
721	Robertson	Lana	8	Hot-Air Hand Dryers vs. Paper Towel Dispensers in Public Bathrooms	Mt. Helix Academy	K. MacDonald
722	Soriaga Strott	Catherine	8	What Preserves a Carved Pumpkin for the Longest?	Stella Maris Academy	M. Flores
		Mabel	8			
723	Sultan	Omar	8	Cleaning for Health: Comparing Cleaning Methods on School Table	Bright Horizon Academy	N. Naserelddin
724	Zwolinski	Zoe	7	The Impact of Wearing Shoes Inside on Bacterial Growth Rates	St. Gregory the Great Catholic School	C. Girard

Junior Division - Physics and Astronomy						
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731	Almera	Athaniel	8	The Effects of Different Masses of Roller Coaster Trains on Velocity	De Portola Middle School	M. Bridges
732	Arshakian	David	7	How Does the Spin Affect the Trajectory of a Kicked Soccer Ball	Mt. Helix Academy	K. MacDonald
733	Ceresia	Cole	7	Effects of Air Pressures in a Soccer Ball	St. Gregory the Great Catholic School	C. Girard
734	Chen	Zoey	8	Estimating the Distance Between the Moon and Earth from the 2023 Solar Eclipse	Carmel Valley Middle School	S. Fredin
735	Huppert	Blake	7	Does Tennis Racquet Construction Affect Different Performance Results?	Nazareth School	M. Reed

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Physics and Astronomy						
736	Kaplan	Asher	8	Baseball Spin Rate Testing	San Diego Hebrew Day School	J. Rivard
737	Motola	Aaron	8	Soccer Pendulum	San Diego Hebrew Day School	J. Rivard
738	Nguyen	Helene	7	What Sunglass Material is Best at Preventing UV Radiation?	Nazareth School	M. Reed
739	Nordstrom	Evan	7	Destruction of Metals	St. Gregory the Great Catholic School	C. Girard
740	Penstone-Smith	Quinn	8	Color vs. Heat	De Portola Middle School	M. Bridges
741	Sanchez	Alfonso	8	Gathering Static Electricity	Extraordinary Private Home School	S. Sanchez
742	Sanchez	Esther	7	Moving Light	Extraordinary Private Home School	S. Sanchez
743	Sternson	Samuel	8	Passive Cooling with Infrared Reflective Crystals	The Rhoades School	R. Hunker
744	Vinck	Leah	7	What Fabric Blocks the Most UV Rays (Cotton, Linen, Polyester)?	Nazareth School	M. Reed

Junior Division - Plant Sciences (PLNT)						
751	Bland Aruya	Taiye	8	Can Sugar Water Improve the Growth of the Mung Bean Plant?	Chula Vista Middle School	T. Tom
752	Delacruz	Devyn	8	How Natural vs. Artificial Light Affects the Amount of Chlorophyll in Broccoli as Tested in Paper Chromatography	St. Michael's School - Poway	J. Poling
753	Essa	Ibrahim	7	Unleashing the Potential of Algae for Sustainable Biofuels	Bright Horizon Academy	N. Naserelddin
754	Levine	Estela	8	The Effect of Increased Fog Acidity on Plant Growth in San Diego	The Children's School	T. Brown
755	Nash	Jack	7	Does Rainwater Make Up for Less Than Optimal Sunlight?	Nazareth School	M. Reed
756	Raspotnik	Ella	8	The Effect of Granular Mycorrhizae on Plants When Exposed to Seasonal Sunlight	The Children's School	T. Brown
757	Schelper	Leilani	8	The Effect of Fertilizer on Plant Life with Rising Temperatures	The Children's School	D. Quincannon
758	Sen	Ritam	8	Can Elemental Sulfur Influence the Growth of Different Plants in Lunar Regolith?	Francis Parker School	J. Pierce

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Plant Sciences (PLNT) cont'd						
759	Smith	Dorian	8	The Effect Colored Light Has on <i>Helianthus annuus</i> Growth	St. Mary Star of the Sea School	B. Klicsu
760	Sternson	Olympia	6	Documenting the Effectiveness of Plant Allelochemicals as Eco-friendly Insect Repellents	The Rhoades School	R. Hunker
761	Stewart	Ayrlanna	8	What's the Difference in Glucose Levels Between Organic and Inorganic Strawberries	Chula Vista Middle School	T. Tom
762	Trench	Ava	8	Does a Chlorophyll Supplement Have More Chlorophyll Than a High-Chlorophyll Vegetable?	St. Michael's School - Poway	J. Poling
Junior Division - Product Testing (PROD)						
771	Brady	Avianca	7	Do Anti-Fog Markers Work Just as Good as Anti-Fog Goggles?	Nazareth School	M. Reed
772	Cohen	Ivonne	8	Does Water Impact the Effectiveness of Sun Protectors	San Diego Hebrew Day School	J. Rivard
773	Crivello	Jacob	7	Sunscreen Skirmish: Who Will Withstand the Heat?	St. Gregory the Great Catholic School	C. Girard
774	Dougherty	Victoria	8	What Fabric Dries the Quickest?	Chula Vista Middle School	T. Tom
775	Ellis	Elisheva	8	How Do Sulfate and Non-Sulfate Shampoos Affect Hair Strength?	San Diego Hebrew Day School	J. Rivard
776	Fonseca	Esmeralda	7	Which Soccer Shinguard Material is Most Protective	Nazareth School	M. Reed
777	Grenevitch	Zsabrina	7	Bleach Away: Exploring the Power of Whitening Toothpaste on Coffee Stains	St. Gregory the Great Catholic School	C. Girard
778	Jasim	Reema	7	What Types of Food Storage is Best for Storing Food?	Bright Horizon Academy	N. Naserelddin
779	Lowry	Jacob	7	Are Different Brands of Water More Pure Than Others?	Nazareth School	M. Reed
780	Meza	Marty	7	Are the pH Levels of Commercially Bottled Water Correlated to Price?	Nazareth School	M. Reed
781	Nayab	Anthony	7	Catching a Football: A Guide to the Effects of Sunglasses	St. Gregory the Great Catholic School	C. Girard
782	Raspotnik	Wyatt	8	The Effect of Weathering on Premium and Basic Paint	The Children's School	T. Brown

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Product Testing (PROD)						
783	Salmon	Andrea	7	Can You Lower Your Energy Bill by Using Ultra-Reflective Paint?	Nazareth School	M. Reed
784	Scherer	Isabella	7	How Effective Are Child Proof Caps?	Nazareth School	M. Reed
785	Spenla	Olivia	7	How Effective Are Child Proof Containers?	Nazareth School	M. Reed



ATTENTION 2024 SCIENCE FAIR PARTICIPANTS & VOLUNTEERS

Enjoy FREE ADMISSION to the San Diego Zoo during Fair Week!

- Free admission is offered March 11 through March 17, 2024 only
- Offer is extended to student-exhibitors and volunteers only, and does not include family members or friends
- To enter the San Diego Zoo for free, report to any ticket window and show your official GSDSEF name badge and photo ID

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STUDENT LISTING BY LAST NAME

Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Abadi	Aliza	551	JR-BMDE	8	San Diego Hebrew Day School	J. Rivard
Abdulaziz	Omar	552	JR-BMDE	8	Thurgood Marshall Middle School	A. Abdurrab
Adato	Tessy	711	JR-MCRO	8	San Diego Hebrew Day School	J. Rivard
Adatto	Meira	511	JR-BEHA	8	San Diego Hebrew Day School	J. Rivard
Ahmad	Yusuf	586	JR-CHEM	7	Bright Horizon Academy 6-8	N. Naserelddin
Alcanciado	Frankie	631	JR-EAEV	7	Nazareth School	M. Reed
Alexander	Grant	501	JR-ANIM	6	La Jolla Country Day School	M. Bessler
Allen	Eva	681	JR-EEMT	8	De Portola Middle School	M. Bridges
Allport	Alexander	682	JR-EEMT	8	The Children's School	D. Quincannon
Ally	Remy	632	JR-EAEV	8	St. Michael's School - Poway	J. Poling
Almera	Athaniel	731	JR-PHYS	8	De Portola Middle School	M. Bridges
Altman	Sadie	512	JR-BEHA	8	San Diego Hebrew Day School	J. Rivard
Aly	Omar	531	JR-BCHM	8	Bright Horizon Academy 6-8	N. Naserelddin
Aly Saad Aly	Princess-Hafsah	513	JR-BEHA	7	Bright Horizon Academy 9-12	N. Naserelddin
Amaro	Joanna	261	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Amin	Ilyas	581	JR-CHEM	7	Bright Horizon Academy 6-8	N. Naserelddin
Anderson	Abby	712	JR-MCRO	6	St. Peter the Apostle Catholic School	M. Berens
Anello	Dominic	651	JR-EEMR	7	The Children's School	T. Brown
Aravind	Medha	201	SR-CBIO	9	Del Norte High School	M. Nathan
Arca	Isabella	371	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Arshakian	David	732	JR-PHYS	7	Mt. Helix Academy	K. MacDonald
Arul	Vasant	231	SR-COMP	12	Canyon Crest Academy	T. Mauro
Arulselvan	Adhiban	652	JR-EEMR	8	Pacific Trails Middle School	M. Mareth
Asudani	Ananya	141	SR-BMDE	10	Del Norte High School	D. Asudani
Backues	Alexander	232	SR-COMP	11	Canyon Crest Academy	E. Gerstin
Badal	Rohan	351	SR-PHYS	11	University City High School	S. Badal
Bantval	Dhruv	142	SR-BMDE	9	Canyon Crest Academy	A. Siegel
Bantval	Maya	532	JR-BCHM	7	Pacific Trails Middle School	K. Chen
Battikha	Alex	291	SR-EEMR	11	Westview High School	J. Silberman
Behnawa	Muhammad	713	JR-MCRO	8	Bright Horizon Academy 6-8	N. Naserelddin
Bhatia	Rishabh	611	JR-COMP	6	The Rhoades School	R. Hunker
Bhatt	Prakruti	202	SR-CBIO	10	Del Norte High School	D. Vyas
Bi	Mia	633	JR-EAEV	7	La Jolla Country Day School	N. Parker
Bisain	Aditya	143	SR-BMDE	9	Canyon Crest Academy	E. Gerstin
Blais	Embry	634	JR-EAEV	7	The Rhoades School	R. Hunker
Bland Aruya	Taiye	751	JR-PLNT	8	Chula Vista Middle School	T. Tom
Bojja	Rohan	144	SR-BMDE	9	Del Norte High School	J. Maturi
Brady	Avianca	771	JR-PROD	7	Nazareth School	M. Reed
Brocious	Ashton	653	JR-EEMR	8	The Children's School	T. Brown
Brooks	Lachlan	683	JR-EEMT	6	La Jolla Country Day School	M. Bessler
Broudy	Ariel	372	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Brough	Jonathan	582	JR-CHEM	6	La Jolla Country Day School	M. Bessler
Brown	Logan	292	SR-EEMR	11	High Tech High North County	C. Sailor
Cao	James	714	JR-MCRO	8	Muirlands Middle School	L. Trombley
Capaldi	Charlotte	715	JR-MCRO	8	The Rhoades School	R. Hunker
Castaneda Martinez	Emilio	635	JR-EAEV	8	Chula Vista Middle School	T. Tom
Castillejos	Audrey	716	JR-MCRO	8	De Portola Middle School	M. Bridges
Cesar	Luke	111	SR-BEHA	10	Central Union High School	L. Rueda
Ceresia	Cole	733	JR-PHYS	7	St. Gregory the Great Catholic School	C. Girard
Chandra	Vikramaditya	352	SR-PHYS	11	San Marcos High School	S. Bireddy
Chavan	Avni	617	JR-COMP	8	Oak Valley Middle School	R. Vaka
Chen	Jennifer	354	SR-PHYS	10	Canyon Crest Academy	A. Siegel
Chen	Steven	636	JR-EAEV	8	Pacific Trails Middle School	M. Mareth
Chen	Trevor	353	SR-PHYS	11	Westview High School	S. Halander
Chen	Zhizhen	583	JR-CHEM	7	The Cambridge School High School	M. Mayne
Chen	Zoey	734	JR-PHYS	8	Carmel Valley Middle School	S. Fredin

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Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Cohen	Ivonne	772	JR-PROD	8	San Diego Hebrew Day School	J. Rivard
Collins	Finley	584	JR-CHEM	7	Mt. Helix Academy	K. MacDonald
Contreras	Diego	373	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Coronel-Villarreal	Hector	311	SR-EEMT	12	Central Union High School	L. Rueda
Cottrell	Oliver	654	JR-EEMR	6	La Jolla Country Day School	N. Parker
Crivello	Jacob	773	JR-PROD	7	St. Gregory the Great Catholic School	C. Girard
Croff	Gregory	585	JR-CHEM	7	Nazareth School	M. Reed
Dagar	Arnav	233	SR-COMP	10	Canyon Crest Academy	K. Hare
Dai	Nathan	234	SR-COMP	12	Canyon Crest Academy	A. Siegel
Day	Samuel	684	JR-EEMT	8	De Portola Middle School	M. Bridges
Delacruz	Devyn	752	JR-PLNT	8	St. Michael's School - Poway	J. Poling
Delapp	Jude	514	JR-BEHA	7	Nazareth School	M. Reed
DeMott	Luke	235	SR-COMP	10	La Jolla High School	R. DeMott
Desai	Ella	236	SR-COMP	11	Canyon Crest Academy	A. Mauro
Devulapalli	Aneesh	237	SR-COMP	11	Canyon Crest Academy	D. Celniker
Dickens	Benjamine	533	JR-BCHM	8	Chula Vista Middle School	T. Tom
Diep	Emily	553	JR-BMDE	8	Connect Academy Poway Unified	J. Teixeira
Dieujuste	Ali	717	JR-MCRO	8	De Portola Middle School	M. Bridges
Dignan	Aiden	685	JR-EEMT	7	Nazareth School	M. Reed
Dodi	Fuaad	586	JR-CHEM	7	Bright Horizon Academy 6-8	N. Naserelddin
Dogra	Saanvi	145	SR-BMDE	10	Del Norte High School	A. Callicott
Dougherty	Victoria	774	JR-PROD	8	Chula Vista Middle School	T. Tom
Dresios	Demetrios	312	SR-EEMT	11	Carlsbad High School	A. Velentza
Dresios	Marianthe	131	SR-BCHM	11	Carlsbad High School	J. Dresios
Dresios	Vassilios	312	SR-EEMT	11	Carlsbad High School	A. Velentza
Du	Kevin	146	SR-BMDE	11	Del Norte High School	J. Lo
Ehsan	Anabia	552	JR-BMDE	7	Thurgood Marshall Middle School	Abdul A. Abdurrah
Eilemberg	Elie	515	JR-BEHA	8	San Diego Hebrew Day School	J. Rivard
Elefante	Nevaeh	262	SR-EAEV	12	Bonita Vista High School	J. Ekstein
Ellis	Elisheva	775	JR-PROD	8	San Diego Hebrew Day School	J. Rivard
Essa	Ibrahim	753	JR-PLNT	7	Bright Horizon Academy 6-8	N. Naserelddin
Essa	Reem	516	JR-BEHA	7	Bright Horizon Academy 6-8	N. Naserelddin
Estrada	Samuel	263	SR-EAEV	10	Holtville High School	B. Sorenson
Ewert	Jackson	374	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Fan	Leanne	147	SR-BMDE	10	Westview High School	D. MacMartin
Feng	Eric	238	SR-COMP	9	The Bishop's School	M. Jaiclin
Feng	Jeremy	355	SR-PHYS	11	The Bishop's School	M. Jaiclin
Fernandez	Amaya	718	JR-MCRO	8	Chula Vista Middle School	T. Tom
Figueroa	Alyna	171	SR-CELL	12	Central Union High School	L. Rueda
Fincher	Danica	264	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Fitzgerald	Myla	587	JR-CHEM	8	De Portola Middle School	M. Bridges
Fonseca	Esmeralda	776	JR-PROD	7	Nazareth School	M. Reed
Foss	Spencer	112	SR-BEHA	11	San Diego Jewish Academy 9-12	P. Hagarman
Fontaine	Cooper	712	JR-MCRO	6	St. Peter the Apostle Catholic School	M. Berens
Francy	Alexandre	517	JR-BEHA	7	St. Gregory the Great Catholic School	C. Girard
Gallegos	Daniela	265	SR-EAEV	12	Central Union High School	L. Rueda
Gandevia	Naina	266	SR-EAEV	10	Holtville High School	B. Sorenson
Ganji	Vibha Yadav	132	SR-BCHM	10	Del Norte High School	N. Ganji
Ganji	Vidha Yadav	132	SR-BCHM	10	Del Norte High School	N.. Ganji
Gao	Sarah	267	SR-EAEV	11	Canyon Crest Academy	E. Gerstin
Gao	William	313	SR-EEMT	10	Canyon Crest Academy	H. Lee
Garcia	Izel	113	SR-BEHA	10	Central Union High School	L. Rueda
Garg	Aarushi	203	SR-CBIO	11	Canyon Crest Academy	E. Gerstin
Giometti	Collin	314	SR-EEMT	11	San Marcos High School	S. Shade
Gobiecki	Nathan	655	JR-EEMR	7	Nazareth School	M. Reed
Goel	Khushee	293	SR-EEMR	10	Scripps Ranch High School	P. Fowler

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STUDENT LISTING BY LAST NAME

Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Gonzalez	Jerry	373	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Gopinath	Kavya	114	SR-BEHA	9	Del Norte High School	A. Callicot
Green	Dylan	656	JR-EEMR	6	The Rhoades School	R. Hunker
Green	Joie	657	JR-EEMR	6	Gillispie School	B. Belsha
Greene	Evan	525	JR-BEHA	8	Stella Maris Academy	M. Flores
Grenevitch	Zsabrina	777	JR-PROD	7	St. Gregory the Great Catholic School	C. Girard
Gupta	Aryahi	315	SR-EEMT	12	Canyon Crest Academy	T. Mauro
Gutierrez	Briana	268	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Hammad	Ida	719	JR-MCRO	7	Bright Horizon Academy 6-8	N. Nasereddin
Hao	Yunshu	172	SR-CELL	11	Sage Creek High School	T. Andersson
Harbin	Samira	612	JR-COMP	8	Chula Vista Middle School	T. Tom
Harris	Gabriella	502	JR-ANIM	7	Nazareth School	M. Reed
Hauser	Eli	686	JR-EEMT	8	The Children's School	T. Brown
He	David	341	SR-MCRO	10	Westview High School	S. Halander
Hellbusch	Brooklyn	588	JR-CHEM	7	St. Gregory the Great Catholic School	C. Girard
Henckels	Declan	658	JR-EEMR	8	Pacific Trails Middle School	M. Mareth
Hernandez	Diego (Toa)	204	SR-CBIO	11	Sweetwater High School	M. Ranganathan
Hernandez	Elias	659	JR-EEMR	8	De Portola Middle School	M. Bridges
Hernandez	Natalie	269	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Higuera Rodelo	Sebastian	375	SR-PLNT	12	Bonita Vista High School	J. Ekstein
Hilinski	Ava	507	JR-ANIM	8	Eastlake Middle School	A. Thacker
Hou	Henry	205	SR-CBIO	9	The Bishop's School	D. Cameron
Huh	Junyoung	613	JR-COMP	7	La Jolla Country Day School	N. Parker
Huppert	Blake	735	JR-PHYS	7	Nazareth School	M. Reed
Hutchins	Elijah	269	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Hyun	Jeonghoo	331	SR-MATH	10	Torrey Pines High School	J. Newell
Hyun	Jihoo	342	SR-MCRO	9	Canyon Crest Academy	E. Gerstin
Ibarra	Melany	376	SR-PLNT	11	Central Union High School	L. Rueda
Ilko	Hannah	377	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Iniguez	Paulina	378	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Jacka	Maverick	687	JR-EEMT	8	Mt. Helix Academy	K. MacDonald
Jaiswal	Rachit	294	SR-EEMR	11	Del Norte High School	T. Roty
Jasim	Reema	778	JR-PROD	7	Bright Horizon Academy 6-8	N. Nasereddin
Jeyaprakash	Arunraj	206	SR-CBIO	11	Canyon Crest Academy	E. Gerstin
Ji	Isabel	148	SR-BMDE	9	Torrey Pines High School	K. DeVico
Johnson	Kendall	268	SR-EAEV	12	Bonita Vista High School	J. Ekstein
Jones	Kira	632	JR-EAEV	8	St. Michael's School - Poway	J. Poling
Kadry	Jumana	660	JR-EEMR	8	Bright Horizon Academy 6-8	N. Nasereddin
Kalakota	Veera	554	JR-BMDE	8	Oak Valley Middle School	B. Gonzalez
Kalapala	Isabella	149	SR-BMDE	9	Mission Vista High School	N. German
Kalyanaraman	Anirudh	150	SR-BMDE	11	Mt. Carmel High School	K. Wytmans
Kamshad	Mikhael	614	JR-COMP	8	San Diego Hebrew Day School	J. Rivard
Kandula	Pranavi	601	JR-CBIO	6	Oak Valley Middle School	R. Marudharaju
Kao	Emma	207	SR-CBIO	11	The Bishop's School	M. Jaiclin
Kaplan	Asher	736	JR-PHYS	8	San Diego Hebrew Day School	J. Rivard
Kapoor	Sanya	295	SR-EEMR	10	Del Norte High School	S. Kapoor
Kathiravan	Gautam	208	SR-CBIO	11	Canyon Crest Academy	D. Celniker
Kathiravan	Yaalini	602	JR-CBIO	7	Pacific Trails Middle School	M. Mareth
Khan	Mohammad	534	JR-BCHM	8	Bright Horizon Academy 6-8	N. Nasereddin
Khattar	Zinia	151	SR-BMDE	11	Del Norte High School	A. Khosla
Khushu	Riya	239	SR-COMP	10	Francis Parker School	J. Pierce
Khushu	Ronit	209	SR-CBIO	10	Francis Parker School	J. Pierce
Kim	Angelina	296	SR-EEMR	11	The Bishop's School	A. Pelletier
Kim	Hudson	316	SR-EEMT	11	Westview High School	B. Meagher
Kowsari	Kian	152	SR-BMDE	10	Scripps Ranch High School	P. Fowler
Kroes	Alejandra	535	JR-BCHM	8	De Portola Middle School	M. Bridges

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Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Kuruvadi	Krishna	315	SR-EEMT	11	Francis Parker School	J. Pierce
Lau	Max	270	SR-EAEV	11	Westview High School	K. Klausing
Lee	David	146	SR-BMDE	11	Del Norte High School	J. Lo
Lee	Juhyeok	191	SR-CHEM	11	Scripps Ranch High School	P. Fowler
Leem	Ethan	173	SR-CELL	9	Canyon Crest Academy	M. Zerwekh
Levine	Estela	754	JR-PLNT	8	The Children's School	T. Brown
Liang	Jaelyn	153	SR-BMDE	9	Westview High School	M. Christopher
Liu	Kaelyn	240	SR-COMP	10	Canyon Crest Academy	K. Shakeri
Lowry	Jacob	779	JR-PROD	7	Nazareth School	M. Reed
Lytle	Haley	379	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Madhukara	Nandana	356	SR-PHYS	11	Canyon Crest Academy	E. Gerstin
Manaligod	Trevor	372	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Mandadi	Krish	357	SR-PHYS	11	Canyon Crest Academy	S. Mandadi
Mandyam	Tanya	101	SR-ANIM	10	Westview High School	S. Halander
Mansour	Malik	297	SR-EEMR	9	Bright Horizon Academy 9-12	N. Naserelddin
Mansur	Emma	518	JR-BEHA	8	San Diego Hebrew Day School	J. Rivard
Marquez	Yesica	371	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Martinez	Andrea	519	JR-BEHA	7	Nazareth School	M. Reed
Martinez	Ian	637	JR-EAEV	8	Chula Vista Middle School	T. Tom
Maturi	Nikhil	144	SR-BMDE	9	Del Norte High School	J. Maturi
McGrath	Jackson	688	JR-EEMT	8	The Children's School	T. Brown
Mensah-Baah	Danielle-Elizabeth	689	JR-EEMT	7	Nazareth School	M. Reed
Meza	Marty	780	JR-PROD	7	Nazareth School	M. Reed
Miller	Issachar	661	JR-EEMR	8	San Diego Hebrew Day School	J. Rivard
Mondal	Raunak	241	SR-COMP	11	Del Norte High School	J. Cheskaty
Monroybeltran	Gian	380	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Motola	Aaron	737	JR-PHYS	8	San Diego Hebrew Day School	J. Rivard
Movva	Tanvi	271	SR-EAEV	10	Del Norte High School	J. Cheskaty
Muller	Vera	714	JR-MCRO	8	Carmel Valley Middle School	J. Yang
Mumin	Abdullah	503	JR-ANIM	8	Bright Horizon Academy 6-8	N. Naserelddin
Munoz	Esteban	115	SR-BEHA	10	Central Union High School	L. Rueda
Munshi	Ronit	242	SR-COMP	11	Canyon Crest Academy	D. Celniker
Musse	Omar	638	JR-EAEV	8	Bright Horizon Academy 6-8	N. Naserelddin
Nahumzon	Aviv	690	JR-EEMT	8	San Diego Hebrew Day School	J. Rivard
Nandhimandalam	Medha	174	SR-CELL	12	Westview High School	D. Herr
Nash	Jack	755	JR-PLNT	7	Nazareth School	M. Reed
Nayab	Anthony	781	JR-PROD	7	St. Gregory the Great Catholic School	C. Girard
Nguyen	Helene	738	JR-PHYS	7	Nazareth School	M. Reed
Ni	Gavin	175	SR-CELL	11	La Jolla Country Day School	N. Hao
Ni	Matthew	355	SR-PHYS	11	Canyon Crest Academy	E. Gerstin
Nordstrom	Evan	739	JR-PHYS	7	St. Gregory the Great Catholic School	C. Girard
Nudurupati	Aneesh	116	SR-BEHA	11	Mt. Carmel High School	A. Klingborg
O'Donnell	Sydney	504	JR-ANIM	6	The Rhoades School	R. Hunker
Ong	Nicholas	662	JR-EEMR	7	La Jolla Country Day School	N. Parker
Onwuchekwa	Uma	639	JR-EAEV	8	De Portola Middle School	M. Bridges
Ouchmame	Zackaria	663	JR-EEMR	8	Bright Horizon Academy 6-8	N. Naserelddin
Ouznali	Duaa	720	JR-MCRO	7	Bright Horizon Academy 6-8	N. Naserelddin
Paband	Khadija	505	JR-ANIM	8	Bright Horizon Academy 6-8	N. Naserelddin
Pacente	Jack	691	JR-EEMT	8	Mt. Helix Academy	K. MacDonald
Pallapotu	Eshika	159	SR-BMDE	10	Del Norte High School	R. Pallapotu
Park	Yechan	191	SR-CHEM	11	Otay Ranch High School	A. Masuy
Parker	Angelina	520	JR-BEHA	7	Mt. Helix Academy	K. MacDonald
Parthasarathy	Jeyanth Narayan	692	JR-EEMT	8	Pacific Trails Middle School	M. Abelmann
Parthiban	Sidhaarth	555	JR-BMDE	8	The Cambridge School	M. Mayne
Patel	Shreeya	176	SR-CELL	11	Del Norte High School	C. Craig

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Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Patil	Yash	298	SR-EEMR	11	Sage Creek High School	S. Patil
Penstone-Smith	Quinn	740	JR-PHYS	8	De Portola Middle School	M. Bridges
Peralta	Joseph	664	JR-EEMR	7	St. Gregory the Great Catholic School	C. Girard
Perez	Gavin	243	SR-COMP	9	The Cambridge School High School	M. Mayne
Perham	Josephina	521	JR-BEHA	8	The Children's School	D. Quincannon
Pruitt	Vivian	317	SR-EEMT	11	Bonita Vista High School	J. Ekstein
Purmul	Maryam	522	JR-BEHA	8	Bright Horizon Academy 6-8	N. Naserelddin
Qiu	Nathan	273	SR-EAEV	10	Canyon Crest Academy	K. Shakeri
Ramesh	Pavishya	601	JR-CBIO	8	Oak Valley Middle School	R. Marudharaju
Ramirez	Alena	380	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Rao	Saanvi	210	SR-CBIO	11	Canyon Crest Academy	A. Siegel
Raschtschenia	Stasha	589	JR-CHEM	7	Mt. Helix Academy	K. MacDonald
Raspotnik	Ella	756	JR-PLNT	8	The Children's School	T. Brown
Raspotnik	Wyatt	782	JR-PROD	8	The Children's School	T. Brown
Ravi	Medha	640	JR-EAEV	8	The Rhoades School	R. Hunker
Ray Chaudhuri	Shounak	244	SR-COMP	10	Francis Parker School	J.P. Pierce
Raymond	Mason	343	SR-MCRO	10	Steele Canyon High School	S. Weiner
Rhoades	Maxwell	381	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Roa Albarracin	Andres	641	JR-EAEV	8	St. Mary Star of the Sea School	B. Klicsu
Robertson	Lana	721	JR-MCRO	8	Mt. Helix Academy	K. MacDonald
Ron	Ayelet	665	JR-EEMR	6	La Jolla Country Day School	M. Bessler
Rothstein	Nathan	536	JR-BCHM	8	San Diego Hebrew Day School	J. Rivard
Roy	Amelie	642	JR-EAEV	7	San Diego French American School	A. Mobley
Rupareliya	Rhea	154	SR-BMDE	11	Canyon Crest Academy	E. Gerstin
Ryu	Wonhee	245	SR-COMP	10	Canyon Crest Academy	K. Shakeri
Sadek	Adham	211	SR-CBIO	10	Canyon Crest Academy	A. Ashour
Sahardiid	Munirah	556	JR-BMDE	7	Bright Horizon Academy 6-8	N. Naserelddin
Salem	Yusra	666	JR-EEMR	6	Bright Horizon Academy 6-8	N. Naserelddin
Salemi	Sherwin	299	SR-EEMR	11	High Tech High North County	C. Sailor
Salmon	Andrea	783	JR-PROD	7	Nazareth School	M. Reed
Samady	Ariana	634	JR-EAEV	7	The Rhoades School	R. Hunker
Sanchez	Alfonso	741	JR-PHYS	8	Extraordinary Private Home School	S. Sanchez
Sanchez	Esther	742	JR-PHYS	7	Extraordinary Private Home School	S. Sanchez
Sanchez	Sofia	262	SR-EAEV	12	Bonita Vista High School	J. Ekstein
Sandoval	Leslie	261	SR-EAEV	11	Bonita Vista High School	J. Ekstein
Sanford	Aiden	667	JR-EEMR	7	St. Gregory the Great Catholic School	C. Girard
Sarles	Jake	523	JR-BEHA	7	The Rhoades School	R. Hunker
Saxena	Parth	246	SR-COMP	10	Scripps Ranch High School	P. Fowler
Schelper	Leilani	757	JR-PLNT	8	The Children's School	D. Quincannon
Schere	Bella	524	JR-BEHA	8	The Children's School	D. Quincannon
Scherer	Isabella	784	JR-PROD	7	Nazareth School	M. Reed
Schuh	Chloe	693	JR-EEMT	7	The Children's School	T. Brown
Sebalj	Keira	537	JR-BCHM	6	St. Peter the Apostle Catholic School	M. Berens
Sen	Ritam	758	JR-PLNT	8	Francis Parker School	J. Pierce
Sengupta	Srija	274	SR-EAEV	11	Westview High School	S. Halander
Senthil	Guhan	658	JR-EEMR	8	Pacific Trails Middle School	M. Mareth
Sheng	Raymond	155	SR-BMDE	11	Del Norte High School	JC. Cheskaty
Siddique	Maleeha	538	JR-BCHM	8	De Portola Middle School	M. Bridges
Siddiqui	Aminah	643	JR-EAEV	8	Bright Horizon Academy 6-8	N. Naserelddin
Siegel	Hudson	557	JR-BMDE	8	The Children's School	T. Brown
Singer	Sara	558	JR-BMDE	8	San Diego Hebrew Day School	J. Rivard
Sipper	Brady	559	JR-BMDE	7	Nazareth School	M. Reed
Smith	Dorian	759	JR-PLNT	8	St. Mary Star of the Sea School	B. Klicsu
Snideman	Esteban	525	JR-BEHA	8	Stella Maris Academy	M. Flores
Snyder	Daniel	506	JR-ANIM	8	San Diego Hebrew Day School	J. Rivard
Sood	Rohin	300	SR-EEMR	11	Del Norte High School	A. Callicott

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Last Name	First Name	Proj ID	un Category	Gr	School	Tchr/Adv
Soriaga	Catherine	722	JR-MCRO	8	Stella Maris Academy	M. Flores
Spnla	Olivia	785	JR-PROD	7	Nazareth School	M. Reed
Sternson	Olympia	760	JR-PLNT	6	The Rhoades School	R. Hunker
Sternson	Samuel	743	JR-PHYS	8	The Rhoades School	R. Hunker
Stewart	Ayrlanna	761	JR-PLNT	8	Chula Vista Middle School	T. Tom
Stoneman	Jenna	590	JR-CHEM	8	De Portola Middle School	M. Bridges
Strott	Mabel	722	JR-MCRO	8	Stella Maris Academy	M. Flores
Sultan	Omar	723	JR-MCRO	8	Bright Horizon Academy 6-8	N. Naserelddin
Sun	Anne	212	SR-CBIO	11	San Marcos High School	S. Shade
Sun	Ethan	247	SR-COMP	11	The Bishop's School	M. Jaiclin
Sun	James	212	SR-CBIO	11	Canyon Crest Academy	E. Gerstin
Susan	Rachel	358	SR-PHYS	9	Mission Vista High School	N. German
Takaki	Victoria	378	SR-PLNT	11	Bonita Vista High School	J. Ekstein
Thaper	Ahran	668	JR-EEMR	6	The Rhoades School	R. Hunker
Tian	Christina	156	SR-BMDE	10	Westview High School	D. MacMartin
Tipirneni	Siri	644	JR-EAEV	8	Carmel Valley Middle School	S. Fredin
Tran	Rex	250	SR-COMP	11	Scripps Ranch High School	P. Fowler
Tran	Sophia	177	SR-CELL	11	Scripps Ranch High School	J. Annese
Trench	Ava	762	JR-PLNT	8	St. Michael's School - Poway	J. Poling
Vaka	Samarth	617	JR-COMP	8	Oak Valley Middle School	R. Vaka
Vanderpump	Alex	651	JR-EEMR	7	The Children's School	T. Brown
Villegas Palacios	Ana	376	SR-PLNT	12	Central Union High School	L. Rueda
Vinayagam	Arunachalam	602	JR-CBIO	8	Pacific Trails Middle School	M. Mareth
Vinayagam	Vishwanathan	652	JR-EEMR	8	Pacific Trails Middle School	M. Mareth
Vinck	Leah	744	JR-PHYS	7	Nazareth School	M. Reed
Vivek	Nithika	215	SR-CBIO	10	Del Norte High School	K. Ramesh
Wadhvani	Dishti	216	SR-CBIO	11	Del Norte High School	A. Wadhvani
Wang	Chloe	133	SR-BCHM	11	Canyon Crest Academy	E. Gerstin
Wang	Ryan	157	SR-BMDE	9	Westview High School	S. Halander
Wrotslavsky	Alexandra	591	JR-CHEM	8	San Diego Hebrew Day School	J. Rivard
Xia	Olina	248	SR-COMP	10	Rancho Bernardo High School	B. Xia
Xu	Kayley	249	SR-COMP	9	The Bishop's School	D. Cameron
Xuan	Kailin	217	SR-CBIO	10	The Bishop's School	D. Cameron
Yadav	Anvay	218	SR-CBIO	10	AAA MS Test School	M. Rao
Yang	Matthew	645	JR-EAEV	7	The Cambridge School High School	M. Mayne
Yao	Minghui	275	SR-EAEV	10	The Bishop's School	M. Jaiclin
Yuan	Ryan	219	SR-CBIO	11	Canyon Crest Academy	E. Gerstin
Zeng	Lilian	276	SR-EAEV	10	Del Norte High School	H. Xu
Zeng	Sophie	275	SR-EAEV	10	The Bishop's School	M. Jaiclin
Zhang	Austin	278	SR-EAEV	10	Del Norte High School	S. Li
Zhang	Brianna	220	SR-CBIO	9	Canyon Crest Academy	M. Zerwekh
Zhang	Elvin	382	SR-PLNT	10	Del Norte High School	J. Cheskaty
Zhang	Emily	277	SR-EAEV	11	Canyon Crest Academy	E. Gerstin
Zhang	Steve	117	SR-BEHA	11	Francis Parker School	E. Hart
Zhang	Sydney	158	SR-BMDE	11	Westview High School	S. Halander
Zhou	Sophia	615	JR-COMP	8	La Jolla Country Day School	N. Parker
Zhu	Virginia	669	JR-EEMR	8	Oak Valley Middle School	Y. Yu
Zhuang	Ryan	670	JR-EEMR	6	La Jolla Country Day School	M. Bessler
Zubaidi	Ahmad	616	JR-COMP	8	Bright Horizon Academy 6-8	N. Naserelddin
Zwolinski	John-Paul	592	JR-CHEM	7	St. Gregory the Great Catholic School	C. Girard
Zwolinski	Zoe	724	JR-MCRO	7	St. Gregory the Great Catholic School	C. Girard

70th Annual Greater San Diego Science & Engineering Fair – 2024

2024 School and Teacher/Advisor Directory

The Board of Directors and Management Committee would like to thank the following schools and their teachers or advisors in San Diego and Imperial Counties for their commitment to and support of students in their independent STEM research for the 67th Greater San Diego Science and Engineering Fair.

SENIOR DIVISION:

AAA MS Test School...Rao, Milind	Francis Parker School... Hart, Emily
Bonita Vista High School... Ekstein, Jennifer	Francis Parker School... John. P. Pierce
Bright Horizon Academy 9-12... Naserelddin, Najwan	High Tech High North County... Sailor, Caroline
Canyon Crest Academy... Celniker, Dvora	Holtville High School, Imperial County... Sorenson, Bonnie
Canyon Crest Academy... Gerstin, Ed	La Jolla Country Day School... Hao, Nan
Canyon Crest Academy... Hare, Kevin	La Jolla High School... DeMott, Ron
Canyon Crest Academy... Lee, Hsui	Mission Vista High School... German, Natalie
Canyon Crest Academy...Mandadi, Srikanth	Mt. Carmel High School... Klingborg, Amy
Canyon Crest Academy... Mauro, Tony	Mt. Carmel High School... Wytmans, Karen
Canyon Crest Academy... Munshi, Devashish	Otay Ranch High School... Masuy, Arlene
Canyon Crest Academy... Rao, Kavitha	Sage Creek High School... Andersson, Tara
Canyon Crest Academy... Shakeri, Kaveh	Sage Creek High School... Patil, Sudhir
Canyon Crest Academy... Siegel, Alex	San Diego Jewish Academy 9-12... Hagarman, Patrick
Canyon Crest Academy... Zerwekh, Michael	San Marcos High School... Bireddy, Sreelatha
Carlsbad High School... Dresios, John	San Marcos High School... Shade, Staci
Carlsbad High School... Velentza, Anastasia	Scripps Ranch High School... Annese, Jacopo
Cathedral Catholic High School... Rafie, Marjan	Scripps Ranch High School... Fowler, Patty
Central Union High School, Imperial County... Rueda, Lourdes	Steele Canyon High School... Weiner, Shayne
Del Norte High School... Asudani, Deepak	Sweetwater High School... Ranganathan, Malini
Del Norte High School... Callicott, Andrea	The Bishop's School... Cameron, Darren
Del Norte High School... Cheskatt, Juli	The Bishop's School... Jaiclin, Marcus
Del Norte High School... Craig, Courtney	The Bishop's School... Pelletier, Anthony
Del Norte High School... Ganji, Nagamalleswara	The Cambridge School High School... Mayne, Melissa
Del Norte High School... Kapoor, Sabby	Torrey Pines High School... DeVico, Kristina
Del Norte High School... Khosla, Abha	Torrey Pines High School...Newell, Julianna
Del Norte High School... Li, Sophie	University City High School... Badal, Sumit
Del Norte High School... Lo, James	Westview High School... Christopher, Matt
Del Norte High School... Maturi, Jagadish	Westview High School... Halander, Scott
Del Norte High School... Nathan, Mrinalini	Westview High School... Herr, Deron
Del Norte High School... Pallapotu, Ramesh	Westview High School... Klausing, Kay
Del Norte High School... Ramesh, Karthik	Westview High School... MacMartin, David
Del Norte High School... Roty, Tim	Westview High School...Meagher, Bruce
Del Norte High School... Vyas, Dhruvil	Westview High School... Silberman, Jack
Del Norte High School... Wadhvani, Anil	
Del Norte High School... Xu, Hongwei	

JUNIOR DIVISION:

Bright Horizon Academy 6-8... Naserelddin, Najwan	Pacific Trails Middle School... Abelmann, Michael
Carmel Valley Middle School... Fredin, Sue	Pacific Trails Middle School... Chen, Kajyo
Chula Vista Middle School... Tom, Tina	Pacific Trails Middle School... Mareth, Marnie
Connect Academy Poway Unified... Teixeira, Janice	San Diego French American School... Mobley, Alexandra
De Portola Middle School... Bridges, Michael	San Diego Hebrew Day School... Rivard, Julie
Eastlake Middle School... Thacker, Amanda	St. Gregory the Great Catholic School... Girard, Camille
Extraordinary Private Home School... Sanchez, Shabba	St. Mary Star of the Sea School... Klicsu, Brenda
Gillispie School... Belsha, Brian	St. Michael's School - Poway... Poling, June
La Jolla Country Day School... Bessler, Matthew	St. Peter the Apostle Catholic School... Berens, Madina
La Jolla Country Day School... Parker, Noa	Stella Maris Academy... Flores, Megan
Mt. Helix Academy... MacDonald, Kayla	The Cambridge School High School... Mayne, Melissa
Muirlands Middle School... Trombley, Lori	The Children's School... Brown, Tina
Nazareth School... Reed, Marilyn	The Children's School... Quincannon, Diana
Oak Valley Middle School... Gonzalez, Bonnie	The Rhoades School... Hunker, Roxanne
Oak Valley Middle School... Marudharaju, Ramesh	Thurgood Marshall Middle School... Abdurrab, Abdul Aziz
Oak Valley Middle School... Vaka, Ramya	
Oak Valley Middle School... Yu, Yangyang	

GSDSEF

March 12, 2024
Project Drop Off
1-7 pm

March 13, 2024 - Judging Day
Student Drop Off: 7:15-8:00 am Student Pick Up: 3:00-3:45pm

