

INFORMATION & EXHIBITOR DIRECTORY

The 69th Annual

Greater San Diego SCIENCE & ENGINEERING FAIR

March 14 – 19, 2023

BALBOA PARK ACTIVITY CENTER



Sponsored By



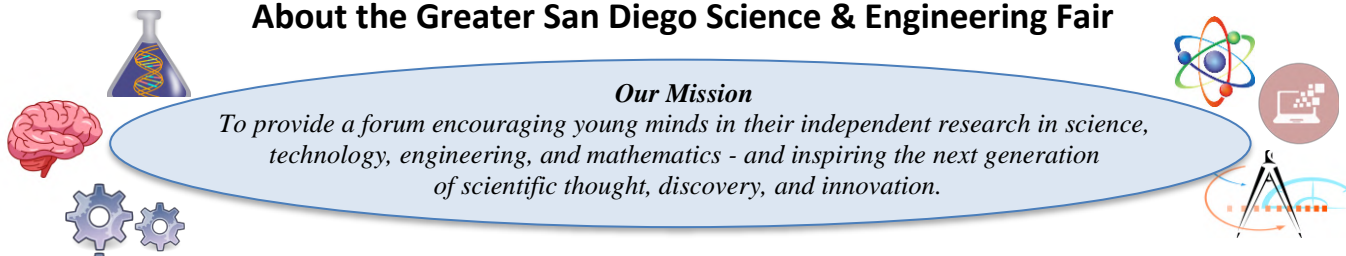
Welcome to the 69th Annual Greater San Diego Science and Engineering Fair!



2023 GSDSEF Schedule of Events

<p>Tuesday, March 14, 2023</p>	<p>Project Sign in and Setup Day Balboa Park Activity Center (BPAC)</p>
<p>Sign In and Project Set Up Day</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 15, 2023</p>	<p>Judging Day – BPAC – 8:15 am to approx. 2:45pm, Students/Judges only allowed during judging!</p>
<p>Judging Day</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 16, 2023</p>	<p>BPAC closed to Public</p>
<p>See you at the Awards Ceremony!</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 Observatory, 2891 University Ave. North 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 17, 2023</p>	<p>BPAC closed to Public</p>
<p>School Tours</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—by appointment only.
<p>Saturday, March 18, 2023</p>	<p>Open to Public – 10 am - 2 pm • Admission and Parking are FREE. The whole family is welcome to view projects in the BPAC!</p>
<p>Open to Public + Project Take-Down</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 19, 2023</p>	<p>Project Take-Down – Day 2 10am - 1 pm.</p>
<p>Project Take Down Day 2</p> <p>Clean Up</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 19 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 69th year, and after holding two virtual Fairs during the COVID-19 pandemic, the GSDSEF is very pleased to resume holding the 2023 Fair in person. 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 200 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. And with the return to an in-person Fair in 2023, the GSDSEF Management Committee deserves special recognition. Each of the 20 MC members puts in dozens of hours of work to plan and execute an enjoyable, safe, and rewarding Fair experience for all. Three MC members deserve particular recognition: Vickie Driver (Judging Coordinator), Rosemary Armour (Scientific Review Committee and Screening chair), 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 69 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 attends public, private, parochial or home schools 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).
- 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 have the opportunity to compete in the Regeneron ISEF.
- Other Special Awards, presented during the Awards Ceremony to student exhibitors individually, include: Taiwanese American Foundation of San Diego, Collins Aerospace Fred H. Rohr Memorial Award, Mickey Award, Ronald Domb Memorial Award, Professional Engineers in California Government Scholarships, BD Awards, 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 and Thermo Fisher Scientific Junior Innovators Challenge Award, previously known as Broadcom MASTERS (Junior Division only).
- Junior and Senior Division Teacher of the Year Awards are given a cash award provided from the Friedman Family Foundation by Barbara Friedman 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

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BD

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Thermo Fisher

Qualcomm

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PECG (Professional Engineers in California Government)

Society for Science

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Friedman Family Foundation – Barbara Friedman

Pfizer

Taiwanese American Foundation of San Diego

Viasat

In-Kind Sponsors

Fleet Science Center

San Diego County Office of Education

San Diego Wildlife Alliance

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



Area Merchants, Businesses, Community Organizations

CoolBox Portable Storage

San Diego City Parks and Recreation – Balboa Park Activity Center

Community Volunteers

69th Annual Greater San Diego Science & Engineering Fair - 2023

BOARD OF DIRECTORS:

- Dr. Earl Williams, NAVWAR; GSDSEF President
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- Mr. Sam Ferguson, Georgia Institute of Technology Graduate School, GSDSEF Recorder
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- Mr. William Proffer, Leidos
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Mr. Steve Rodecker, Science Fair Director

MANAGEMENT COMMITTEE:

- Mrs. Rose Armour, Coordinator of Scientific Review Committee and Screening
- Ms. Vickie Driver, Zim Biosciences, Coordinator of Judging
- Mr. Sam Ferguson, Georgia Institute of Technology Graduate School, Coordinator of Awards and Awards Ceremony Venue
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- Mrs. Sejal Pabari, Coordinator of Professional Societies
- Mr. William Proffer, Leidos
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- Mr. Hal Slater, Coordinator of Size and Safety
- Mr. Douglas Smith, Leidos, Website Management Committee, Hospitality Coordinator
- Mrs. Olivia Tian
- Mrs. Jessica Ulylot, Coordinator of GSDSEF Store, Co-Coordinator of Screening and Scientific Review Committee
- Dr. Earl Williams, NAVWAR, Technology Coordinator
- Mr. True Xiong, Sony Playstation, Coordinator of Volunteers
- Mr. Sany Zakharia, Qualcomm, Coordinator of Grants and Fundraising
- Student Representative: Eleanor Jung, Student Leadership Board President

Liaisons:

- Shirley Miranda, San Diego City Schools, Liaison to the California Science and Engineering Fair
- Sejal Pabari, Liaison to Thermo Fisher Scientific Junior Inventors Challenge

Screening Volunteers

- Gary Dorrance
- David Lane
- Cynthia Lane
- Terry Thedell
- Veronica Valdez
- Hilde Vandenberg
- Ann Welton

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.

Additional Volunteers

- Jelen Rodecker, All things printed, Awards Presentation, Website Management Committee
- Marilyn Pennington, DRS Daylight Solutions, Student Information and Directory, Awards Presentation

Board Member Emeritus

Mr. Phil Gay and Mrs. Wendy Gay

The Board of Directors, Management Committee members, and Liaisons are volunteers who give their time and expertise to produce the Greater San Diego Science & Engineering Fair.



Student Leadership Board Officers

PRESIDENT: **Eleanor Jung**

SECRETARY – **Joy Ruppert**

TREASURER - **Ellen Xu**

COMMITTEE CHAIRPERSONS:

- Vice President of Activities – **Kyle Tianshi**
- Vice President of Outreach – **Kavya Gupta**

Student Leadership Board Members:

Issa Alwazir, Bright Horizons Academy
Aarav Arora, Del Norte High School
Aimee Barrett, Central Union High School
Danna Bundogji, Pacific Ridge School
Vikramaditya Chandra, San Marcos High School
Amogh Chaturvedi, Canyon Crest Academy
Zeynep Cotuk, Scripps Ranch High School
Arnav Dagar, Canyon Crest Academy
Rohit De, Del Norte High School
Saanvi Dogra, Del Norte High School
Elaine Dong, Canyon Crest Academy
Leanne Fan, Westview High School
Spencer Foss, San Diego Jewish Academy
Kelly Gan, San Diego Jewish Academy
Vibha Yadav Ganji, Del Norte High School
Vidha Yadav Ganji, Del Norte High School

Maanas Gantla, Canyon Crest Academy
Sarah Gao, Canyon Crest Academy
William Gao, Canyon Crest Academy
Shervin Goudarzi, Canyon Crest Academy
Kavya Gupta, Westview High School
Micah Hall, Steele Canyon High School
James Hou, The Bishop's School
Ritvik Irigreddy, Canyon Crest Academy
Eleanor Jung, Mt. Carmel High School
Anirudh Kalynaraman, Mt. Carmel High School
Maya Krishnan, La Jolla Country Day School
Vidhi Kulkarni, Del Norte High School
Selah Leboffe, Canyon Hills High School
Rebecca Leeman, Torah High School San Diego
Andrew Li, Canyon Crest Academy
Racel Ligeralde, Scripps Ranch High School

Nandana Madhukara, Canyon Crest Academy
Dahlia Navarro, Bonita Vista High School
Arshia Nayebnazar, Canyon Crest Academy
Matthew Noto, Canyon Crest Academy
Joy Ruppert, San Dieguito High School Academy
Kyle Tianshi, The Cambridge School
Andrew Tsui, Canyon Crest Academy
Renee Wang, The Bishop's School
Ronald Wyatt, Eastlake High School
Ellen Xu, Del Norte High School
Kate Xu, Del Norte High School
Elita Yang, Pacific Ridge High School
Cecilia Ymaz, Chula Vista High School
Jocelyn Zhang, 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.
- produce a Scientist Spotlight series on social media to honor underrepresented scientists.
- organize the t-shirt design competition.
- 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



for their sponsorship.

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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, 200+ 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 offer 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.



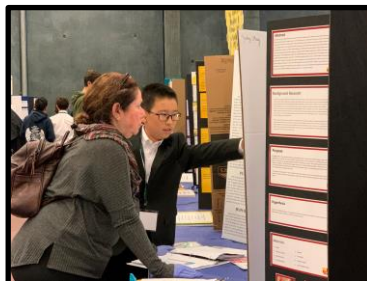
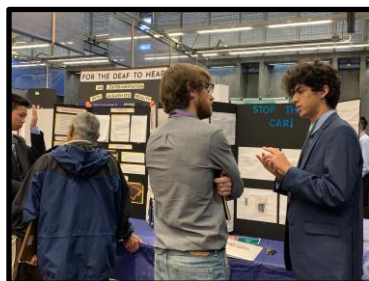
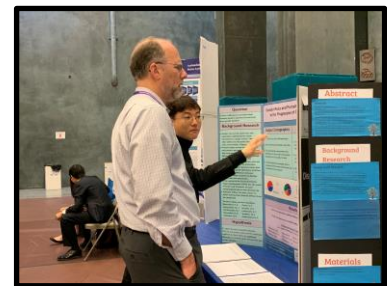
ORGANIZATIONS PROVIDING JUDGES TO THE 69th ANNUAL GSDSEF

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 Inc.
AT&T
Bank Clinical Research Center
Bastyr University California
BD Biosciences
BEWISE
Biomatrix/Exact Sciences
Booz Allen Hamilton
Caltrans
Capsule Tech
Cibus LLC
Civic Knowledge
Comtech Telecommunications
County of San Diego
DAS
De Maximis, Inc
Department of Psychology; University of California, San Diego
Design Success
Eli Lilly
Exact Sciences
Fehr & Peers
General Atomics Aeronautical Systems Inc
GNF
Haley & Aldrich, Inc.
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HI-Q Environmental Products Company, Inc.
IEC
Infineon Technologies Inc
Intel
Ionis Pharmaceuticals

JTY Tech
Leidos
Loxo Oncology/Bayer & UT MD Anderson Cancer Center
Mesa College
MilliporeSigma
National University
National Weather Service
Naval Health Research Center
Naval Information Warfare Center Pacific
NOAA Corps
NOAA/Southwest Fisheries Science Center
Northrop Grumman
NOVO Engineering, Inc.
NYU Langone Health
Optical Services Company
Orbis Intelligent Systems
Palomar College
Pfizer Inc
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Ramona Research
Rockstar Games
SAIC
San Diego Air Pollution Control District
San Diego City College
San Diego Jewish Academy/Salk Institute
San Diego State University
San Diego Zoo
San Ysidro Health Center
Scripps Institution of Oceanography

Scripps Research Florida
Scripps Research/Howard Hughes Medical Institute
SDSU
Sidus Solutions
Sony Interactive Entertainment
Southwestern College
SSCPAC
Surface Optics
Swarthmore College
Takeda Pharmaceuticals
The MITRE Corporation
The Scripps Research Institute
Torrey Hills Technologies, LLC
Torrey Pines Software, Inc
Trefoil Therapeutics
U.S. Geological Survey
U.S. Navy
UC San Diego
UC San Diego Alumni Board
UCSD / Ludwig Cancer Research Institute
UCSD Mechanical and Aerospace Engineering
US Navy
USAF
VCA
Viasat
Welch-Ilmvac Vacuum Pumps
Zim Biosciences
Zova Systems, LLC





Professional Society and Recognition Awards

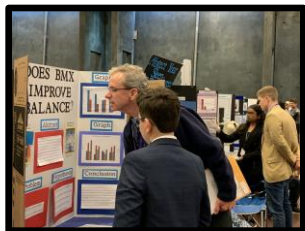
The Greater San Diego Science & Engineering Fair wishes to thank the Professional Societies and Organizations that have sponsored student awards over the years. Each Professional Society or Organization determines their own judging standards and awards based on their organization’s unique criteria. They 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.

Below is a list of Professional Societies and Organizations that have historically sponsored an award (varies year to year):

- American Academy of Pediatrics Climate Change and Health Committee
 - American Society of Civil Engineers
 - American Society of Materials International, San Diego Chapter
 - American Society of Non Destructive Testing (San Diego Section)
 - Armed Forces Communications and Electronics Association
 - Association for Women in Science
 - 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
 - Chemical Society, San Diego 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
 - 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 Foundation
 - 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 County Section
 - Taiwan Award
 - The Ron Orta Excellence in Biomedical Research Award
 - Torrey Pines Docent Society
 - WateReuse 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 – sponsored by Barbara Friedman
- BD Awards for “Advancing the World of Health”
- Collins Aerospace Fred H. Rohr Award
- Grand Awards
- Mickey Award in honor of Ron Mickelson
- Professional Engineers in California Government (PECG) Scholarships
- RED Award - Ronald E. Domb Memorial Award
- Broadcom Foundation Coding with Commitment Award
- Student Leadership Board (SLB) Awards
- Taiwanese American Foundation of San Diego
- Thermo Fisher Scientific Awards



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HIGHLIGHTS from the 2022 GSDSEF



In the 68th Annual Greater San Diego Science and Engineering Fair, we had

- a Virtual Fair – student exhibitors submitted their notebook, a judging slide deck and video, and were then interviewed virtually by teams of judges
- 566 students in San Diego and Imperial Counties submitted proposals for SRC Approval, and over 400 completed a project
- 354 students who were recommended to participate and 335 completed the application process: 215 in Junior Division and 120 in Senior Division
- 316 total student exhibitors went through virtual interviews with the judges on zFairs;
- 175 Junior Division student exhibitors submitted projects: 152 Individual Projects, 23 Team Projects
- 118 Senior Division student exhibitors submitted projects: 98 Individual Projects, 10 Team Projects
- 44 schools participated – 41 in San Diego County and 2 in Imperial County
- 24 schools participated in Junior Division
- 20 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 will compete in the 2022 Regeneron International Science and Engineering Fair in Atlanta Georgia in May, 2022

CATEGORY AWARDS:

Junior Division: 50 First Place, 67 Second Place, 50 Third Place, 9 Fourth Place

Senior Division: 44 First Place, 39 Second Place, 20 Third Place, 4 Fourth Place



GRAND AWARDS:

Senior Division Life Science Grand Awards

Daniel Cai, Torrey Pines High, Gr. 12 - *ISEF Finalist*

Amogh Chaturvedi, Canyon Crest Academy, Gr 11 - *ISEF Finalist*

Senior Division Physical Science Grand Awards

Ayush Nayak, Westview High, Gr. 11 - *ISEF Finalist*

Rohan Bosworth, Poway High, Gr. 11 - *ISEF Finalist*

Senior Division Life Science Runners-Up Grand Awards

1st RU: Matthew Noto, Canyon Crest, Gr. 11 - *ISEF Finalist*

2nd RU: Elaine Dong, Canyon Crest Academy, Gr.11

Senior Division Physical Science Runners-Up Grand Awards

1st RU: Shirley Xu, The Bishop's School, Gr. 11- *ISEF Finalist*

2nd RU: Kara Fan, Canyon Crest Academy, Gr. 11

The Taiwan Award

Elaine Dong, Canyon Crest Academy, Gr. 11

Junior Division Life Science Grand Awards

Leanne Fan, Mesa Verde MS, Gr. 8

Kai Moore, The Rhoades School, Gr. 8

Junior Division Physical Science Grand Awards

Arnav Dagar, Pacific Trails Middle School, Gr. 8

Shiloh Dimenstein – Soille San Diego Hebrew Day School, Gr.8

Junior Division Life Science Runners-Up Grand Awards

Ava Brocious, The Children's School, Gr. 8

Ronald Wyatt, Chula Vista Middle School, Gr. 8

Junior Division Physical Science Runners-Up Grand Awards

Danielle Leivers-Breise, The Children's School, Gr. 8

Dhruv Bhanthal, Pacific Trails Middle School, Gr. 7

For complete 2022 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.

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Highlights from Affiliated Fairs:

REGENERON International Science and Engineering Fair (ISEF) Results (held in Atlanta, Georgia)

The competition featured 1750 young scientists from across the US and world. Approximately one third of students receive an Award. The GSDSEF had 7 student finalists - Amogh Chaturvedi, Ayush Nayak, Daniel Cai, Matthew Noto, Rohan Bosworth, Shirley Xu, and Peter Radic (qualified through California Science and Engineering Fair).



ISEF Grand Awards 2022:

First Award in Physics and Astronomy (\$5000 Award): Ayush Nayak, Westview High School

Second Award in Mathematics (\$2000 Award): Shirley Xu, The Bishop's School

Third Award in Biochemistry (\$1000 Award): Matthew Noto, Canyon Crest Academy

Third Award in Computational Biology and Bioinformatics (\$1000 Award): Amogh Chaturvedi, Canyon Crest Academy

Regeneron ISEF 2022 Special Awards Winners:

Air Force Research Laboratory on behalf of the US Air Force: 1st Award (\$750) - Rohan Bosworth, Poway High School

American Mathematical Society: Third Award (\$500): Shirley Xu, The Bishop's School

American Statistical Association: Honorable Mention: Amogh Chaturvedi, Canyon Crest Academy

Central Intelligence Association: First Award of (\$1000): Ayush Nayak, Westview High School

International Council on Systems Engineering: Honorable Mention: Rohan Bosworth, Poway High School

King Abdulaziz & his Companion Foundation for Giftedness and Creativity: Full Scholarship from King Fahd University of Petroleum and Minerals (KFUPM) and \$400 cash prize each: Peter Radic, Canyon Crest and Ayush Nayak, Westview High School

Lawrence Technological University: Tuition scholarship of \$19,500/year up to 4 years: Amogh Chaturvedi, Canyon Crest

Mu Alpha Theta, National HS and 2-Year College Mathematics Honor Society: First Award (\$1500): Shirley Xu, Bishop's

National Security Agency Research Directorate: Third Place Award "Cybersecurity": Peter Radic, Canyon Crest Academy

California Science and Engineering Fair Results: 89 students were nominated from the GSDSEF, with approximately 900 participants statewide. Only one First, Second, Third, and Fourth Awards are given in each category. Honorable Mention may have more than 1.

GSDSEF students received 5 First Awards, 4 Second Awards, 4 Third Awards, 6 Fourth Awards, 10 Honorable Mention

Broadcom MASTERS 2022 Results

The 2022 Broadcom MASTERS had 1807 applicants from 35 states, plus Puerto Rico from which the top 300 were selected. The top 30 finalists were then chosen from this group.



TOP 300 Finalists:

Arnav Dagar, Pacific Trails Middle School

Saanvi Dogra, Oak Valley Middle School

Vibha Yadav Ganji, Oak Valley Middle School

Vidha Yadav Ganji, Oak Valley Middle School

Kayley Xu, The Bishop's School

Regeneron Science Talent Search 2023

The Regeneron Science Talent Search is the most prestigious science and math competition for high school seniors. The top 300 are chosen from over 1900 students from 48 states, Washington D.C., Puerto Rico, and four other countries.

TOP 300 Scholars 2022:

Ayush Agrawal, Canyon Academy

Daniel Cai, Torrey Pines High

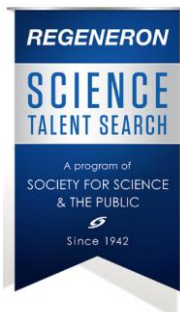
Ryan Clairmont, Canyon Crest Academy

Andrew Gao, Canyon Crest

Ryan Huang, Canyon Crest Academy

Atulya Mandyam, Westview High

Michael Zeng, The Bishop's School



Top 40 Finalist 2023

Ellen Xu, Del Norte High

*Winners will be announced on March 14, 2023

Top 300 Finalists 2023

James Hou, The Bishop's School

Ayush Nayak, Westview High

Bella Rose Schremmer, University City High

Ellen Xu, Del Norte High

Shirley Xu, The Bishop's School

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

Senior Division - Animal Science (ANIM)

101	Mandyam	Tanya	9	Circadian Rhythm Disturbance Affects Running Activity and Gut Microbiome in Rats	Westview High School High	M. Christopher
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Senior Division - Behavioral and Social Sciences (BEHA)

111	Ramirez	Cameron	10	Effectiveness of Students' Time Management on GPA	Central Union High School	L. Rueda
112	Foss	Spencer	10	The Sunk Cost Fallacy and the Applications of Priming	S. D Jewish Academy	P. Hagarman
113	Kuemmerle	Nolan	12	To What Extent is There a Correlation Between Age and Reaction Time?	Bonita Vista High School	M. Mardahl
115	Garg	Aarushi	10	Silent Epidemic in the U.S.: Sleeplessness Amongst Teens	Canyon Crest Academy	E. Gerstin
116	Khan	Safwa	11	Learned Helplessness on Academic Performance across Different Age Groups	Bright Horizon Academy	N. Naserelddin
117	Na	Grace	11	The Effects of Religion on BVH Students' Environmental Philosophies	Bonita Vista High School	J. Ekstein
118	Sunga	Eiffel	12	The Effect of Income on BVH Students' Ability to Live Sustainably	Bonita Vista High School	J. Ekstein
119	Wu	Jialu	10	Text-to-Image to Increase Reading Comprehension in Lower and Middle School Students	La Jolla Country Day School	D. Lenzen
120	McGreevy Park	Isaac Alex	11	Determining the Effects of Intense Focus on Auditory Memory	La Jolla High School	K. Dill
121	Bhalla	Nupur	9	Correlation Between Suicides and Mental Health, Substance Abuse, HDI, Marriages, Life Satisfaction	Del Norte High School	A. Callicott

Senior Division - Biochemistry (BCHM)

141	Ibarra Almanza	Melany	10	Effects of Ultraviolet Rays on Gelatin	Central Union High School	L. Rueda
142	Martin	Jaden	11	The Concentration Difference of Proteins During Different Stages of Lactation in Bovines	Central Union High School	L. Rueda
143	Nandhimandalam	Medha	11	Exploring the Effect of Turmeric Absorption with Black Pepper-Turmeric Combination	Westview High School	D. McMartin

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Biochemistry (BCHM) cont'd						
144	Tsui	Andrew	11	Novel High-Throughput Screening and Identification of FDA-Approved Drugs for Alzheimer's Disease Treatment	Canyon Crest Academy	A. Siegel
145	Caballero	Noah	12	Effect of Inhibitors on Functionality of Phenolase in Apples	Bonita Vista High School	M. Mardahl
Senior Division - Biomedical/Health Sciences and Bioengineering (BMDE)						
151	Barrett	Aimee	12	Most Common Complications in Patients from Bariatric Surgery	Central Union High School	L. Rueda
	Cano	Sofia	12			
152	Dai	Nathan	11	Diagnosis of Mpox Using Machine Learning with a Convolutional Neural Network	Canyon Crest Academy	E. Gerstin
153	Botello Pradis	Natalie Leilani	12 12	Automating Nutrition Administration as an Approach to Preventing Malnutrition and Dehydration in Dementia Patients	Central Union High School	A. Ortiz
154	Garcia Barbosa	Seleena	12	Does Aerobic Exercise Affect the Performance of Memorization?	Bonita Vista High School	M. Mardahl
155	Kalyanaraman	Anirudh	10	Cobinamide - A Novel Antioxidant to Protect Against Polyaromatic Hydrocarbon-Induced Cardiac Cytotoxicity	Mt. Carmel High School	A. Klingborg
156	Quezada	Jayne	12	To What Extent Does Gender Affect the Patellar Reflex?	Bonita Vista High School	M. Mardahl
157	Krishnan	Maya	11	Effect of Human Dermal Fibroblast Cells on Lipopolysaccharide (LPS)-Induced Neuroinflammation	La Jolla Country Day School	D. Valji
159	Alcantara	Mikha	12	How Does Classical Music Compare to Horror Music in Manipulating Heart Rate	Bonita Vista High School	M. Mardahl
160	Fries	Sam	11	Compression: Performance Enhancing or Not	St. Augustine High School	T. Fries
161	Hussain	Daanya	11	Sugars vs Sweeteners: Detrimental Effects on Bodily Functions	Bright Horizon Academy	N. Naserelddin
162	Day	Andrew	11	Gasping for Air? Blame Neanderthals.	Torrey Pines High School	B. Belyea
163	Chen	Justin	12	Using Artificial Intelligence to Track Cellular Changes After Laser-Induced-Shockwave as a Model of Traumatic Brain Injury	Torrey Pines High School	B. Belyea

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Biomedical/Health Sciences and Bioengineering (BMDE) cont'd						
165	Garcia Barbosa	Cynthia	12	To What Extent Does Standing from a Supine Position Affect Heart Rate and Blood Pressure?	Bonita Vista High School	M. Mardahl
166	Khattar	Zinia	10	Discovery of Stress Pathways Targets to Map Gene Function on Regulatory Networks	Del Norte High School	J. Cheskaty
167	Ganji	Vibha Yadav	9	Deep Learning Based Approach for Detection of Epileptogenic Zone Using HFO Events	Del Norte High School	N. Ganji
168	Fan	Leanne	9	Detecting and Treating Mid-Ear Infections Using Acoustic Reflectometry and Blue Light	Westview High School	S. Halander
Senior Division - Cellular and Molecular Biology (CELL)						
181	Cao	Shannon	11	Proteomic Analysis of Epithelial Cell Polarity Complexes Using TurboID, g:Profiler, and Cytoscape	La Jolla High School	J. Zhang
182	Sun	Grace	12	Exploring the Contribution of Innate Immune Cells to Breast Cancer Immunotherapy	The Bishop's School	L. Keller
183	Patel	Shreeya	10	Analysis of p53 Target Genes in Senescent Cells	Del Norte High School	C. Craig
Senior Division - Chemistry (CHEM)						
191	Kulkarni	Rishika	11	Novel PSS-Driven Ligand Exchange on the Surface of Gold Nanocubes	Francis Parker School	J.P. Pierce
192	Xiong	Nathan	11	Effective Separation of Fatty Acids Using COF Incorporated Epoxy Membranes	The Bishop's School	P. Reynolds
Senior Division - Computational Biology and Bioinformatics (CBIO)						
201	Pai	Krish	10	Deep Learning Diagnosis and Reconstruction of Gastrointestinal Disorders from Capsule Endoscopy Videos	Canyon Crest Academy	E. Gerstin
202	Dogra	Saanvi	9	Investigating the Underlying Molecular Patterns in Aggressive Brain Tumor ETMR	Del Norte High School	S. Dhanda
203	Gantla	Maanaskumar	12	Screening of FDA Approved Drugs for Potential Alzheimer's Therapeutics Using Machine Learning	Canyon Crest Academy	A. Siegel

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Computational Biology and Bioinformatics (CBIO) cont'd						
204	Lu	Daniel	11	Early Prediction of Diabetes Using Machine Learning Techniques on Multiple Datasets	Westview High School	S. Halander
205	Samy	David	11	Accelerating Cancer Drug Discovery through an Algorithmic Approach to Identifying Leads Against Target Protein Kinases	Canyon Crest Academy	K. Hare
206	Wang	Chloe	10	How Long Will It Take to Exhaust All Possible Mutations of SARS-CoV-2?	Canyon Crest Academy	E. Gerstin
207	Yu	Andrew	11	Investigation of Potential Gene Pathways Associated with Resistance to Targeted Therapy in FLT3-ITD Acute Myeloid Leukemia	Canyon Crest Academy	E. Gerstin
208	Rupesh	Bhadra	11	Determining Genetic Biomarkers as Predictors of Response to Anti-PD 1 Cancer Immunotherapy	The Bishop's School	L. Keller
209	Kumar Aravind	Alex Vishnu	11 11	Using Machine Learning to Repurpose FDA Drugs for the Treatment of Diabetic Cardiomyopathy	Del Norte High School	S. Kumar
210	Ramesh	Shivani	11	Predicting Right and Left Hemisphere Damage in Aphasia Patients Using NLP and Machine Learning	Scripps Ranch High School	P. Fowler
211	Sun	James	10	Type 2 Diabetes Prediction and Risk Factors Using Machine Learning Models	Canyon Crest Academy	E. Gerstin
212	Keiser	Miles	10	Predicting Radiosensitivity of Tumors Using Genetic Biomarkers and Machine Learning	Del Lago Academy	I. Tsigelny
213	Chen	Trevor	10	Use of Deep-Learning to Find Inhibitors for Aldose Reductase as Treatment of Diabetic Cataracts	Westview High School	S. Halander
214	Bharadwaj	Akshaj	11	Predicting Gene Expression In Cancer Tissues Using Machine Learning on Histopathological Images	Canyon Crest Academy	E. Gerstin
216	Wang	Grace	11	Generating a Database of Experimental Data for Evaluating Algorithms for Gene Set Enrichment Analysis	Del Norte High School	J. Mortensen
217	Ma	Kevin	12	Variant Annotation Through a Highly-Efficient Bioinformatics Tool	Canyon Crest Academy	E. Gerstin
218	Pallapotu Vivek	Eshika Nithika	9 9	What Factors are Most Influential in the Spike in Influenza Levels	Del Norte High School	J. Cheskaty
219	Nguyen Geering	Vivian Giselle	12 12	Identifying Novel Inhibitors of Cholera Toxin Subunit B	Bonita Vista High School	M. Mardahl

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Computational Biology and Bioinformatics (CBIO) cont'd						
220	Madhukara	Nandana	10	Lipid Bilayer Bending Due to Membrane-Protein Interactions: A Computational Investigation	Canyon Crest Academy	E. Gerstin
221	Jeyaprakash	Arunraj	10	Artificial Intelligence Techniques for Automated Detection of Autism Spectrum Disorder Based on Mobile Camera Imaging	Canyon Crest Academy	A. Siegel
223	Nayebnazar	Arshia	11	Precision-Recall Adversarial Network (PRAN): A Novel Deep Learning Framework for Improvement of Clinical Binary Classification	Canyon Crest Academy	T. Mauro
224	Ganji	Vidha Yadav	9	Machine-Learning Based Early Detection of Breast Cancer Using Blood-Based Biomarkers	Del Norte High School	N. Ganji
225	Arora	Aarav	11	Novel Laryngeal Cancer Diagnostic Approach Using MiRNA and Metabolite Biomarkers	Del Norte High School	A. Callicott
226	Irigireddy	Ritvik	11	Machine-Learning Based Rapid and Efficient Diagnosis of Tuberculosis	Canyon Crest Academy	E. Gerstin
227	Wang	Zhijing	11	System Biology Analysis of Rheumatoid Arthritis Samples for Personalized Treatment	Canyon Crest Academy	E. Gerstin
228	Jung	Eleanor	12	Novel Method to Image-based Intracellular Force Estimation with Discrete Differential Geometry	Mt. Carmel High School	A. Klingborg
229	Kulkarni	Vidhi	11	Implementation of Machine Learning-Based System for Early Diagnosis of Feline Mammary Carcinoma through Blood Metabolite Profiling	Del Norte High School	C. Craig

Senior Division - Computer Science and Systems Software (COMP)

241	Zhang	Sydney	10	EyeScore, A Point of Care Smartphone App for Dry Eye Diagnosis & Prevention	Westview High School	M. Ingram
242	Lu	Frederick	11	Human Pose Estimation in Determining Karate Pose Accuracy	Canyon Crest Academy	A. Mauro
243	Chang	Melinda	11	Albio.js: A Compiler-Powered Reactivity Library for Building Performant User Interfaces	Canyon Crest Academy	E. Gerstin
244	Guan	Sophia	11	A Machine Learning Approach to Understanding the Determining Factors of the Gender Wage Gap	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						
245	Kathiravan	Gautam	10	Machine Learning Model for Traffic Behavior Prediction in Intelligent Transport System	Canyon Crest Academy	D. Celniker
247	Mondal	Raunak	10	Development of Personalized Machine Learning and Data Augmentation Strategies to Diagnose Autism	Del Norte High School	J. Mortensen
249	Xu	Shirley	12	Quantifying Size and Movement of Metal Organic Frameworks Using Computer Vision	The Bishop's School	M. Jaiclin
250	Fan Qiao	Benjamin Edward	12 12	Deep Learning for Solving and Estimating Dynamic Macro-Finance Models	The Bishop's School	M. Jaiclin
251	Giometti	Collin	10	Exploring Interactive Genetic Algorithms with Music Composition	San Marcos High School	S. Shade
252	Sridharan	Agastya	11	Improved Inductive Performance on Small Datasets Using Hyper-Connected Neural Architectures, C. Elegans-Inspired Networks, and Evolutionary Modeling	Scripps Ranch High School	P. Fowler
253	Xiao Shen	Tyler Emma	11	Grow & Give	Del Norte High School	J. Cheskaty
254	Proshkin	Alexander	12	Investigating the Synergetic Integration of Multifaceted Abstractions with Constraint Programming for Enhanced Time Interval Optimization	Canyon Crest Academy	E. Fisher
255	Rao	Saanvi	10	Computer Vision Based iOS App for 2 Way Communication with ASL for the Hearing Impaired	Canyon Crest Academy	A. Siegel
256	Rao	Rikhil	11	A Machine Learning Based Pipeline for Automated Single-Cell Quantification of Breast Cancer Marker Evolution from Serial Immunofluorescence Assays	Canyon Crest Academy	K. Hare
257	Dagar	Arnav	9	Where's Waldo Going - A Bayesian Approach for Localizing a Moving Robot	Canyon Crest Academy	A. Siegel
258	Magtoto	Brianna	11	Evaluating Data Augmentation Techniques for Reducing Gender Bias in NLP Using a Pre-trained BERT Model	Bonita Vista High School	J. Ekstein
259	Qiu	Nathan	9	Metaverse Virtual Classroom for Enhanced Remote Engagement	Canyon Crest Academy	T. Mauro
260	Lee	Woojin	11	Optimizing the Efficiency and Nutritional Distribution of Food Banks	Otay Ranch High School	C. Pearson
261	Li	Aaron	9	Sober Guardian	Francis Parker School	Y. Sun

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Earth and Environmental Sciences (EAEV)						
271	Hernandez	Daniel	10	How Does Ocean Acidification Affect Survival Rate of Sea Snails?	Bonita Vista High School	M. Mardahl
272	Enriquez Robitaille	Jonathan Olivia	11 11	Tijuana v San Diego: Ocean Water Pollution	Bonita Vista High School	J. Ekstein
273	Imperial	Francine Dezarae	11	How Does Increased Population Affect PM2.5 Levels in China, from 2000-2022?	Bonita Vista High School	J. Ekstein
274	Rhoades	Lyra	11	How Does One Country's Socioeconomic Status Correlate to Their Carbon Emissions?	Bonita Vista High School	J. Ekstein
275	Connors	Kaelyn	11	How Does Eutrophication Affect Porpoise Populations in the Baltic Sea?	Bonita Vista High School	J. Ekstein
276	Kim	Hudson	10	Canopy: A Deep Learning Approach To Rainforest Deforestation Detection And Response	Westview High School	W. Kim
277	Noblejas	Eliza	11	How Do Major Development Projects in Otay Ranch Neglect Environmental Issues	Bonita Vista High School	J. Ekstein
278	Rico	Carlene	11	Human Population in Mexico's Effect on Forest and Biodiversity in Mexico	Bonita Vista High School	J. Ekstein
279	Roman	Alexander	11	The Effect of California Value Redemption Programs on the Environment	Bonita Vista High School	J. Ekstein
280	Sengupta	Srija	10	Good on Land and Bad in Water: Effects of Fertilizer-Rich Runoff on Algal Growth	Westview High School	S. Halander
281	Zeng	Lilian	9	Fast Screening of Chemical UV Filters in Contaminated Water	Del Norte High School	J. Cheskaty
282	Ravi	Tejas	10	Prevalence of Microplastics in Local Waters: A Quantitative Study	Canyon Crest Academy	K. Shakeri
283	Juneau	Amelie	11	The Number of Honey-producing Bee Colonies Versus Climate Change from 1974 to 2007	Bonita Vista High School	J. Ekstein
284	Kumar	Sanjana	11	Utilizing 3D-Printed Engineered Living Materials to Break Down Environmental Pollutants	Francis Parker School	J.Pierce
285	Luna	Nicolette	11	How Does Water Quality Differ in San Diego Lakes in Densely Populated Areas as Opposed to Less Populated Areas?	Bonita Vista High School	J. Ekstein
286	Nunez	Junalene	11	How Does Increased Pet Ownership Harm Marine Life?	Bonita Vista High School	J. Ekstein

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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						
287	Wise	David	11	Testing Low-Budget Water Purification Methods for Rural Areas using Physical Models	St. Augustine High School	J. Brophy
288	Yadav	Anvay	9	Turning Crop Waste into Energy: Numerical Simulations to Study the Impact of Blending Methanol into Gasoline on Pollutant Emissions	Del Norte High School	A. Callicott
289	Xu	Kate	10	Reducing Lead Contamination through Hydroponically-Grown Mycorrhizal Plants	Del Norte High School	B. West
290	Gao	Sarah	10	Identification and Experimental Characterization of Plant Seeds as Effective Flocculants for Water Treatment	Canyon Crest Academy	E. Gerstin
291	Arias	Eduardo	11	The Effects of Petrol and Heavy Metals on Soil	Bonita Vista High School	J. Ekstein
292	Marcuson	Elena	10	Are Antibacterial Products Good?	Holtville High School	B. Sorenson
293	Oani	Madeleine	11	How Does Ecological Footprints in Brazil, Japan, and Singapore from 2010-2020 Correlate to Their Biodiversity?	Bonita Vista High School	J. Ekstein
294	Robledo	Robert	12	How Has Ocean Acidification Affected the Beaches of Southern California?	Bonita Vista High School	J. Ekstein
295	Tianshi	Kyle	11	Rapid Detection of Microplastics in Water: A Novel Light Scattering Method Using Fluorescence Emissions	The Cambridge School High School	M. Mayne

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

331	Kim	Angelina	10	Deep Reinforcement Learning of PID Control for Rotational Wing Aerial Vehicles	The Bishop's School	M. Jaiclin
332	Munshi	Ronit	10	Self Balancing Robot	Canyon Crest Academy	D. Munshi
333	Usher Brown	Nicholas Logan	11 11	A Differentially-Geared, Omnidirectional Robotics Platform With Autonomous Jerk-Limited Navigation	High Tech High North County	C. Sailor
334	Patil	Yash	10	Drunk Driving Recognition	Sage Creek High School	S. Patil
335	Tatineni	Nitika	11	Energy-Saving HVAC System Using Ultrasonic Sensors and Machine Learning	Canyon Crest Academy	A. Mauro

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Engineering: Energy, Materials, and Transport (EEMT)						
351	Sun	Ethan	10	Water Harvesting with Hydrogel	The Bishop's School	B. Heldt
352	Luo	Anna	9	Multi-Purpose Shelter for the Homeless	Canyon Crest Academy	E. Gerstin
353	Rao	Rahul	11	Algorithms for Evolutionary Aviation Network Flow Optimization Using Topological and Demographic Features	Canyon Crest Academy	K. Rao
354	Zhang	Jocelyn	11	Enhanced Photoluminescence Performance of Porous Silicon Quantum Dots for Bioimaging Application	Del Norte High School	F. Liao
355	Catanzaro	Marcus	11	Optimizing Heat Transfer of Cooking Surfaces Using Various Strategies of Temperature Control	Cathedral Catholic High School	M. Rafie
Senior Division - Mathematics (MATH)						
371	Liu	Derek	12	Arrangements of Simplices in Fine Mixed Subdivisions	Torrey Pines High School	B. Belyea
372	Bosworth Bosworth	Rohan Arya	12 9	Multi-Resolution, Multi-Heuristic, Polynomial-Based, A* Motion Planning With Semantic Consideration	Poway High School	K. Woldseth
Senior Division - Microbiology (MCRO)						
381	Wang	John	11	Using Resazurin Assays for Screening Herbal Extracts with Antimicrobial Activity on Oral Streptococcus mutans	Canyon Crest Academy	E. Gerstin
382	Kazi	Hafsah	10	The Impact of Gut Bacteria and Beta Amyloid on Yeast Cells	Bright Horizon Academy	N. Nasereldin
383	Fan	Kara	12	A Self-Disinfecting Nanomaterial for Future Space Travel	Westview High School	S. Halander
Senior Division - Physics and Astronomy (PHYS)						
391	Badal Badal	Jai Rohan	12 10	Color Analysis of Mars Regolith and Estimates of Surface Water on Mars	University City High School	S. Badal
392	Cai	Cindy	11	Measuring Sunspot Rotation and Exploring Its Relationship with Solar Eruption	Canyon Crest Academy	Y. Liu
393	Chandra	Vikramaditya Sidharth	10	Pathfinder: A Novel Convolutional Neural Network for Classifying Photometric Surveys	San Marcos High School	S. Bireddy

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Senior Division - Physics and Astronomy (PHYS) cont'd						
394	Andersen	Sven	11	Precise Star Temperature and Gravity Measurements Depend on High Spectral Image Signal to Noise Ratios	San Diego High School Complex	N. Raiewski
395	Nayak	Ayush	12	Quantum Dot based Quaternion High-Transport Transistor Technology	Westview High School	S. Halander
396	Dresios	Demetrios	10	Probing for Dark Stars and Drawing Conclusions on Dark Matter Using JWST	Carlsbad High School	A. Velentza
Senior Division - Plant Sciences (PLNT)						
401	Anderson Iniguez	Vivien Priscilla	11 11	How Does the Presence of 0.5% Chlorine Affect the Sprouts and Germination of Phaseolus vulgaris?	Bonita Vista High School	J. Ekstein
402	Delara	Sarah	11	The Effects of Acid Rain on the Growth and Germination of Lima Beans in the Span of 10 Days	Bonita Vista High School	J. Ekstein
403	Magtoto	Cherise	11	The Effects of Ibuprofen on the Growth and Germination of Lactuca sativa.	Bonita Vista High School	J. Ekstein
404	Robitaille	Daniel	11	How Does Runoff Affect the Mass of Duckweed	Bonita Vista High School	J. Ekstein
405	Dabbah	Esther	11	Effects of Acid Rain on Growth and Health of Peas	Bonita Vista High School	J. Ekstein
406	Angulo Hernandez	Hiram	11	The Effect of Unused Motor Oil on Pea Plants (Pisum Sativum) Growth and Germination	Bonita Vista High School	J. Ekstein
407	Nava	Diego	12	The Effect of San Diego River Water on Raphanus raphanistrum Seed Germination	Bonita Vista High School	M. Mardahl
409	Sanchez	Nicholas	11	To What Extent Does Increasing Temperature Affect the Growth and Germination of the Pinto Beans (Phaseolus vulgaris)?	Bonita Vista High School	J. Ekstein

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
JUNIOR DIVISION						
Junior Division - Animal Sciences (ANIM)						
501	Shaw	Gavin	7	Ants Favorite Food and Natural Repellent	St. Gregory the Great Catholic School	S. Dasgupta
502	Franey	Mackenzie	7	Finding the Most Productive Size Flock for Backyard Chicken Owners	St. Michael's School - Poway	K. de Venecia
503	Louie	Patrick	8	What Attracts Fruit Flies?	Farb Middle School	P. Huntington
504	Ehsan	Anabia	6	Impact of Vitamins on Planaria Regeneration: A Model for Regenerative Medicine	Bright Horizon Academy 6-8	N. Naserelddin
505	Jafari	Mariam	8	How to Determine an Animal's Status of Predator or Prey Using Its Nose to Eye Angle	The Cambridge School High School	M. Mayne
509	Tinnerstet	West	8	What's That Glow: Does Changing Dinoflagellates Light Cycles Affect Them?	Coastal Academy	B. Biernacki
510	Barroso	Isabella	7	The Circadian Rhythm Of Bioluminescence In Dinoflagellates	Nativity School	L. McTavish
511	Breskin	Nosson	8	Natural Vs Processed: Which is Better	San Diego Hebrew Day School	S. Jones
512	Evans	Mia	8	Which Food Will Red Worms Consume the Quickest?	Mt. Helix Academy	K. MacDonald
513	Myers	Gabriel	8	Which Sock Will the Dog Sniff Longer?	San Diego Hebrew Day School	S. Jones
514	Kang Balderrabano	Ella Luciana	8 8	What Food Makes a Painted Lady Butterfly Grow the Fastest?	Stella Maris Academy	S. Eckmann
515	Ajanovic	Aya	7	Red-40 Effect on Daphnia	Bright Horizon Academy 6-8	N. Naserelddin
Junior Division - Behavioral and Social Sciences (BEHA)						
521	Rohling	Trevor	7	Do You Hear What You See?	St. Gregory the Great Catholic School	S. Dasgupta
522	Quezada	Lily	7	Feelings of a Flower: Emotions Conveyed from Art	St. John School - Encinitas, CA	G. Heins
523	Schere	Bella	7	Modern Remake of the Stanford Marshmallow Experiment	The Children's School	D. Quincannon

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Behavioral and Social Sciences (BEHA) cont'd						
524	Rodriguez	Eric	8	Stroop Effect: Rotating Labels in Shapes and Their Effect on Response Time	Mt. Helix Academy	K. MacDonald
525	Perham	Josephina	7	The Effect of Age and Gender on Purchasing and Awareness of Purchases	The Children's School	D. Quincannon
526	Bausch	Kira	8	The Pressure in Personal Space Invasion	St. John School - Encinitas, CA	G. Heins
527	Brocius Murphy	Ashton John	7 7	Music and Math	The Children's School	D. Quincannon
528	Kuckenbaker Loebig	Brooke Maya	8 8	The Bias Buster: Bias in a Photo Line Up	St. John School - Encinitas, CA	G. Heins
530	Goncalves	Lily	8	Acts of Deception	St. John School - Encinitas, CA	G. Heins
531	Meehan	Robert	7	The Effects of Different Cell Phone Distractions While Driving	Mt. Helix Academy	K. Macdonald
533	Perkins Potter	Philip Mason	7 7	The Effect of Video Games on Short-Term Memory	St. Gregory the Great Catholic	S. Dasgupta
534	Robertson	Lana	7	Which Factors Indicate If a Yawn Could Be Contagious	Mt. Helix Academy	K. MacDonald
535	O'Dea	Emma	7	Do Different Colors of Paper Affect the Way a Student Does on a Test?	Nazareth School	M. Reed
537	Abdulaziz	Omar	7	Gender Stereotypes in Early Childhood Development	Bright Horizon Academy 6-8	N. Naserelddin
538	Go	Olivia	7	Assessing Empathetic Results Based on Audio vs Visual Stimuli	The Rhoades School	R. Hunker
539	Ravi	Medha	7	EarYe! EarYe!: Effects of Earbuds, Ordinary Headphones, and Noise-Canceling Headphones on Desired Music Decibel Level	The Rhoades School	R. Hunker
540	Stidman	Sofia	7	Does Screen Time Affect How Often You Blink?	Nazareth School	M. Reed
541	Gardner	Molly	7	How Color Affects Perception of Foods and Drinks	Mt. Helix Academy	K. MacDonald
542	Long	Lily	8	Exploring Academic Setting Applications of a Turing Test Derivative	The Rhoades School	R. Hunker
543	Kalapala	Isabella	8	The Zodiac Personality Test	St. Peter the Apostle Catholic School	E. Czarnowski
544	Weiser	Menachem	8	Forward Engineering vs Reverse Engineering	San Diego Hebrew Day School	S. Jones
545	Boniske	Joey	8	Does Test Format Affect Reading Comprehension Performance	San Diego Hebrew Day School	S. Jones

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Behavioral and Social Sciences (BEHA) cont'd						
546	Bartos	Cielo	8	Do Right-Handed or Left-Handed Teens	Stella Maris	S. Eckmann
	Sisitki	Sofia	8	Adapt Faster to Switching Dominant Hands?	Academy	
547	Kantorovich	Yosef	8	How Does Your Temperament Affect Your Team Working Ability?	San Diego Hebrew Day School	S. Jones
548	Kent	Giuliana	7	Fidgets Are Just Toys...Or Are They?	Nazareth School	M. Reed
Junior Division - Biochemistry (BCHM)						
583	Bantval	Maya	6	Detection and Comparison of Vitamin C Enriched Beverages	Sage Canyon Elementary School	K. Arthur
584	Trujillo	Ashlyn	8	Holy Water Take 2	St. Peter the Apostle Catholic School	E. Czarnowski
585	Qarar	Yusra	7	Will Soaking Food in Water Before Cooking Remove Starch from It?	Bright Horizon Academy 6-8	N. Naserelddin
586	Zwierzykowski	Katrina	8	Effect of Time and Ripeness on Vitamin C Levels on Fruits	City Tree Christian School 6-8	M. Lee
Junior Division - Biomedical/Health Sciences and Bioengineering (BMDE)						
601	Parthiban	Sidhaarth	7	Effects of Various Concentrations of Nicotine on Monocyte	The Cambridge School High School	M. Mayne
602	Chen	Steven	7	Magnetically-Powered Micro Train	Pacific Trails Middle School	A. Milholland
603	Roy	Phoebe	7	What UPF Fabric is the Best at Repelling UV Radiation?	Nazareth School	M. Reed
604	Bantval	Dhruv	8	Smart Glove with ASL-to-Speech Conversion to Assist the Hearing Impaired	Pacific Trails Middle School	E. Main
605	Siddiqui	Aminah	7	Vitamins Against Free Radicals	Bright Horizon Academy 6-8	N. Naserelddin
606	Rull	Andreas	8	Too Hot for Sopt	St. John School - Encinitas, CA	G. Heins
607	Jaimovich	Adam	7	Efficacy of Various Spice Extracts in	The Rhoades School	R. Hunker
	Sayed	Zakari	7	Combating Potential Stimulant Hazards		
609	Aly	Omar	7	The Effect of Weight Training for Throwing a Football	Bright Horizon Academy 6-8	N. Naserelddin
611	Cantorna	Eva	7	Do People with Different Eye Visions Have Different Blind Spots?	Nazareth School	M. Reed
612	Birch	Sophia	6	The Effect of Different Edible Liquids in Protecting Model Esophagus from Swallowed Batteries	City Tree Christian School 6-8	M. Lee

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Cellular and Molecular Biology (CELL)						
633	Holmlin	Mikaela	8	Evaluating the Use of Chromosomal Aberration and Structural Variation to Identify Sex, Ethnicity and Age from DNA Samples	The Children's School	D. Quincannon
Junior Division - Chemistry (CHEM)						
641	Escotet	Santiago	8	Does Flour Affect the Height of a Cookie?	All Hallows Academy	A. Branson
642	Vignevic	Jake	7	Measuring Protein and Vitamin C Level in Foods after Different Types of Cooking	St. Gregory the Great Catholic School	S. Dasgupta
643	Corona	Gianluca	8	Scoville Heat Units	All Hallows Academy	A. Branson
644	Spooner	Casey	7	Testing Water from Different Zip Codes	St. Gregory the Great Catholic School	S. Dasgupta
645	Venverloh	Nora	8	The Effects of Different pH Level Waters In Rotting Food	The Children's School	D. Quincannon
646	Huebscher	Rebekah	6	Dyeing Natural and Synthetic Fabrics	Heritage Christian School	E. Huebscher
647	Lindsey	Ashlie	8	The Effect of Water Temperature on Ammonium Nitrate Activation	City Tree Christian School 6-8	M. Lee
Junior Division - Computer Science and Systems Software (COMP)						
681	Pathria	Sachin	8	Creating a Model to Forecast Change in Prescription Drug Prices	The Children's School	D. Quincannon
682	du Preez	Benjamin	7	How Does Mass Affect an Active Ragdoll?	St. Gregory the Great Catholic School	S. Dasgupta
683	Ko	Lyla	7	The Effects of Light and Distance on Face ID	St. Gregory the Great Catholic School	S. Dasgupta
684	Diep	Emily	7	Virtual Piano Teacher - Personalized Piano Lessons	Connect Academy Poway Unified	J. Teixeira
685	Adamson	Parker	8	Can an Arduino Control a Lamp?	All Hallows Academy	A. Branson
686	Xu	Kayley	8	Respiratory Sound Classification Using AI	The Bishop's School	J. Jordan

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Earth and Environmental Sciences (EAEV)						
701	Kozak	Patrick	7	Are The Homeless Encampments Along Rose Creek Polluting It's Water?	All Hallows Academy	A. Branson
702	Allport	Alexander	7	Corn Husks Get More Done	The Children's School	D. Quincannon
703	Matkov	McKayla	8	The Effect of Particle Size on the Rate of Erosion through Wave Action	The Children's School	D. Quincannon
704	Cooper	Aaron	6	The Effect of the Moon and Sun's Gravitational Force on Volcanic Eruptions	Community Montessori Charter School Carlsbad	I. Cooper
705	Weyer	Sammy	8	The Effects of Primary and Secondary Colors on the Temperature of Water	All Hallows Academy	A. Branson
706	Stevens	Mia	7	The Sunshine Tax	All Hallows Academy	A. Branson
707	Marce	Bernardo	8	What is the Best Way to Dispose of Biodegradable Products? A Year 3 Study	Our Lady of Guadalupe Academy	J. Patton
708	Rowe	Tyler	7	The Effects of Different Waters on the	St. Gregory the Great Catholic School	S. Dasgupta
	Revilla-Harker	Joaquin	7	Growth of Grass		
709	Wroblewski	Mila	7	Effect on Coral after Sand Disturbances	Thurgood Marshall Middle School	N. Wroblewski
710	Mohammad	Aamina	7	Plastic Sorting Using Machine Learning	Bright Horizon Academy 6-8	N. Naserelddin
711	Musse	Omar	7	Which Aquatic Plant Absorbs Oil the Best?	Bright Horizon Academy 6-8	N. Naserelddin
712	Salmeron	Yandel	8	Which Type of Produce will be Disposed the Most: Fruit or Vegetables?	Chula Vista Middle School	T. Tom
713	Tapia	Afrika	8	Are San Diego Freshwater Habitats pH Healthy for Bluegill Fish to Inhabit?	Chula Vista Middle School	T. Tom
714	Naveed	Haadi	8	Will Chelation Help the Plants from Heavy Metal Toxicity	Bright Horizon Academy 6-8	N. Naserelddin
715	Ayesta Hollstein Huschke	Sebastian	8	The Effects of Different Conditions on Solar Panel Output Efficiency	Stella Maris Academy	S. Eckmann
		Tim	8			
716	Trevino	Nythalia	8	Can a Homemade Water Filter Remove Harmful Substances from San Diego's River?	Chula Vista Middle School	T. Tom

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

731	Zhu	Virginia	7	Counterweight Trebuchet Design Optimization	Oak Valley Middle School	Y. Yu
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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Engineering: Electrical, Mechanical, and Robotics (EEMR) cont'd						
732	Powers	McCoy	7	Designing and Building a Vending Machine for Chickens	Coastal Academy	B. Biernacki
733	Austin	Reed	7	The Pulley Wheel	St. John School - Encinitas, CA	G. Heins
734	Denning	Will	8	Which is a Safer Option, a Phone or a Computer?	All Hallows Academy	A. Branson
735	Richardson	Ryan	7	Conserving Water Using an Automatic Faucet	St. John School - Encinitas, CA	G. Heins
736	Cena	Abby	7	The Effect of the Base Shape of a Pyramid on Its Weight Bearing Capacity	St. Michael's School - Poway	K. de Venecia
738	Ouchmame	Zackaria	7	Smart Medicine Cabinet	Bright Horizon Academy 6-8	N. Nasereldin
739	Conway	Sophia	7	Electromagnetic Efficiency	Mt. Helix Academy	K. MacDonald
740	Hamel	Leo	8	How Does Weight Affect a Drone	Mt. Helix Academy	K. MacDonald

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

751	Montemayor	Maliya	8	Honeycombs - Not Just for the Bees: Optimizing Cell Types for Architecture	St. John School - Encinitas, CA	G. Heins
752	Macinnes	William	7	How Chord Length Affects the Efficiency of Propellers	St. Gregory the Great Catholic School	S. Dasgupta
753	Pacente	Jack	7	Improving Compression Strength of Polyethylene Terephthalate Glycol (PETG) through the Process of Annealing	Mt. Helix Academy	K. MacDonald
754	Raagas	Caleb	7	Salinity Levels Effects on Hydroelectricity	St. Gregory the Great Catholic School	S. Dasgupta
755	Kalkin	Rebecca	7	Testing Different Heat and Light Sources to Power a Solar Car	St. Gregory the Great Catholic School	S. Dasgupta
756	O'Leary	Caroline	7	The Effects of Rotating Solar Panels Vs. Fixed Solar Panels: Which Will Produce More Power Output?	St. Gregory the Great Catholic School	S. Dasgupta
757	Kehrli	Jack	7	The Optimal Surface for Soccer Players	All Hallows Academy	A. Branson
758	Neubrand	Colt	7	What Type of Bat Provides More Distance: Wood or Composite?	Nazareth School	M. Reed

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Engineering: Energy, Materials, and Transport (EEMT) cont'd						
759	Poch	Maia	7	Portable Desalination	The Children's School	D. Quincannon
	Schelper	Leilani	7			
760	Sparks	Carter	7	Fishing Line Strength Test	St. Gregory the Great Catholic School	S. Dasgupta
	Solomon	Gabe	7			
761	Rhodes	Kevin	8	How Color Affects Heat Absorption	De Portola Middle School	M. Bridges
762	Poulin	Madeline	7	Does the Design of a Bridge Affect How Much Weight It Can Hold?	Nazareth School	M. Reed
763	Zubaidi	Ahmad	7	A Solution to Earthquake-Proof Affordable and Sustainable Housing in San Diego	Bright Horizon Academy 6-8	N. Naserelddin
764	Zeller	Keanu	7	Tilt Angle Effects on Eddy Current Impacts	The Rhoades School	R. Hunker
765	Powers	John	7	Investigating Optimal Weight Distribution for Stability of a Homemade ROV	The Rhoades School	R. Hunker
767	Adler	Ben	8	What Is the Best Spray for Your Football Gloves?	San Diego Hebrew Day School	S. Jones
768	Anthony	Adam	8	Testing and Comparing the Strengths of Homemade Bioplastics	De Portola Middle School	M. Bridges
769	Ladisa	Michael	7	Which Types of Water Bottles (Plastic, Metal or Insulated) Maintain Water at a Lower Temperature?	Nazareth School	M. Reed
770	Allende	Carmina	7	How Do Different Surfaces of Tennis Courts Affect the Way a Ball Bounces	Nazareth School	M. Reed
771	Parthasarathy	Jeyanth Narayan	7	Effects of Reverse Vertical Stabilizers on Aeroplanes	Pacific Trails Middle School	A. Milholland

Junior Division - Microbiology (MCRO)

801	Trinh	Reagan	7	Effects of Natural Preservatives on Fruit	St. Gregory the Great Catholic School	S. Dasgupta
802	Wilson	Mia	7	Kitchen Hygiene	All Hallows Academy	A. Branson
803	Leem	Ethan	8	Most Effective Natural Anti-Bacterial Agent	Pacific Trails Middle School	E. Main
804	Donboli	Stella	7	The Effect of Household Cleaners on Bacteria	St. Gregory the Great Catholic School	S. Dasgupta
805	Hashemi	Emilia	7	The Rate of Bacterial Growth on Water Bottles, Keyboards, and Air Pods on a Period of 3 Days	St. Michael's School - Poway	L. Ray

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Microbiology (MCRO) cont'd						
806	Capetanakis	Victoria	7	Which Harbors More Bacteria: a Phone or a Toilet?	St. John School - Encinitas, CA	G. Heins
808	Alcaraz	Gianna	8	Germs Against Liquid Hand Soap	Chula Vista Middle School	T. Tom
809	Capaldi	Charlotte	7	Investigating the Effectiveness of a UVC Wand on Bacteria Mortality	The Rhoades School	R. Hunker
810	Miranda	Biancka	8	Germs in Gyms	Chula Vista Middle School	T. Tom
811	Paband	Khadija	7	How Well Does Expired Hand Sanitizer Work?	Bright Horizon Academy 6-8	N. Naserelddin
812	Eiseman	Maxwell	8	LEDs Effect on Bacteria	San Diego Hebrew Day School	S. Jones
813	Horowitz	Avinadav	8	The Effect of Salt, Tap, and Carbonated Water on Bacteria Growth	San Diego Hebrew Day School	S. Jones
814	Lugasi	Eliyahu	8	Artificial Vs Natural UV Light	San Diego Hebrew Day School	S. Jones
815	Nakach	Jayden	8	Does a Different Environment Affect Bacteria Growth?	San Diego Hebrew Day School	S. Jones
Junior Division - Physics and Astronomy (PHYS)						
821	Ortiz Calva	Jose	8	Does the Color of a Glass Bottle Affect Temperature Change?	All Hallows Academy	A. Branson
822	Bomar	Dylan	8	How Fast Do Mario Kart Hot Wheel Go on a Loop Track	Mt. Helix Academy	K. MacDonald
823	Hulse	Madison	7	The Effect of String Tension on a Tennis Racket's Power	Nazareth School	M. Reed
824	Bailey	Lauren	7	How the Speed of Rotor Blades Affects the Amount of Lift on Helicopters	Coastal Academy	B. Biernacki
825	Soukup	Branden	8	The A, B, and C's of UV Radiation	Mt. Helix Academy	K. MacDonald
826	Susan	Rachel	8	LED vs Incandescent: Which Performs Better?	Coastal Academy	B. Biernacki
827	Nguyen	Kristine	8	Size and Magnetic Power	Chula Vista Middle School	T. Tom
828	Nagal	Matthew	8	Using the Solar and Heliospheric Observatory Satellite to Measure the Motion of a Coronal Mass Ejection and Calculating Their Arrival Speeds to Earth	Mt. Helix Academy	K. MacDonald
829	Mitchell	Reid	7	What Is the Best Weather Condition to Throw a Football	Mt. Helix Academy	K. MacDonald

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Physics and Astronomy (PHYS) cont'd						
830	Chen	Zoey	7	Circling around Earth or the Sun? Using a Cell Phone APP to Reconstruct Orbits of the Moon and Planets in the Sky	Carmel Valley Middle School	T. Kim
831	Owen	Brooklynn	7	Putts to Perfection: Comparing Repeatability of Heavy and Light Putters	Classical Conversations	K. Owen
832	Carreon	Marcello	8	Does the Amount of Wire on a Guitar Pickup Affect Sound	All Hallows Academy	A. Branson
834	Hettena	Evan	7	What's the Fastest Way to Cool a Soda	Mt. Helix Academy	K. MacDonald
835	Arnaudy	Elodie	7	Flipping Fast: The Effect of Body Shape on Flip Speed	City Tree Christian School 6-8	M. Lee
836	Marsh	Olivia	8	Moon and Star Light	Eastlake Middle School	A. Thacker
Junior Division - Plant Sciences (PLNT)						
851	Ally	Remy	7	A Sweet Approach to Fun Flowers	St. Michael's School - Poway	W. Wolters
852	Leonhardt	Jake	8	Can Lawn Watering Be Cut In Half?	All Hallows Academy	A. Branson
853	Muir	Madison	8	Compost Vs. Soil, Which Boosts Plant Growth?	The Children's School	D. Quincannon
854	Ffrench	Ellarose	7	Effect of Reclaimed, RO, and Well Water on Radishes	St. Gregory the Great Catholic School	S. Dasgupta
855	Andersen	Noah	8	Effects of Reduced Water on Growth of St. Augustine, Sea Thrift and Fescue	De Portola Middle School	M. Bridges
856	Flores	Sebastian	8	Which Liquids Will Keep a Pear from Oxidizing for the Longest Period?	Mt. Helix Academy	K. MacDonald
857	Zettle	Emily	8	Will Vegetables Grow Better with Artificial versus Natural Light?	St. John School - Encinitas, CA	G. Heins
858	Garrity Garrity	Ruth Simon	7 7	The Power of Fruit	The Children's School	D. Quincannon
860	Hooper Gramme	Clare Reese	7 7	Does Petroleum-based Food Dye and Aspartame Artificial Sugar Affect the Growth of Radish Plants?	St. Gregory the Great Catholic School	S. Dasgupta
861	Capetanakis	Yianna	8	What is the Ideal Amount of Water to Grow Romaine Lettuce Plants?	St. John School - Encinitas, CA	G. Heins
863	Sternson	Samuel	7	Production of Natural UV-absorbing Sunscreens in Plant Leaves	The Rhoades School	R. Hunker

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Plant Sciences (PLNT) cont'd						
864	Arnold	Wyatt	8	Do Different Plants Affect the Pesticide Level in Pesticide Runoff?	Mt. Helix Academy	K. MacDonald
865	Sung	Ihan	8	Is Growing Succulents in Water Faster than Growing Them in Soil?	Eastlake Middle School	A. Thacker
866	Armstrong	Maya	8	Capillary Action of Water in Plants	Mt. Helix Academy	K. MacDonald
867	Birch	Charlotte	8	The Effect of pH on Growing Cress in Lunar Soil Simulant	City Tree Christian School 6-8	M. Lee
868	Hall	Kennedy	8	What Kind of Flower Food is Best to Keep a Bouquet Fresh?	Mt. Helix Academy	K. MacDonald
869	Larsen	Tymbur	6	The Effects of Water Types on Chia Seed Growth	City Tree Christian School 6-8	M. Lee
870	Villarroel	Emerson	7	The Effect of Paper Bags on Plums Ripening Process	City Tree Christian School 6-8	M. Lee
871	Bruno Onstott	Liz Katherine	8 8	L.L.T.B.P (LED Light Test on Bonnie Succulent Plants)	Stella Maris Academy	S. Eckmann

Junior Division - Product Testing (PROD)						
891	Zwahlen	Maddie	7	Comparing Extracted	St. Gregory the Great Catholic School	S. Dasgupta
892	Maldonado	Sebastian	8	What is the Optimal Skate Wax for Street Skating?	All Hallows Academy	A. Branson
893	Schroeder	Jorge	8	Which Insulated Water Bottle Can Keep Cold Water the Longest?	All Hallows Academy	A. Branson
894	Chang	Iason	8	Which Pen Lasts the Longest?	Mt. Helix Academy	K. Macdonald
895	Amon	Pablo	7	Which Scooter Bearing Cream Allows for the Longest Spin?	All Hallows Academy	A. Branson
896	Benjalil	Lillianna	8	The Effect of Cleaning Products and their Efficiency in Eliminating Smoke Damage	Mt. Helix Academy	K. MacDonald
897	Gallego	Demetrio	8	Which is the Thickest Pasta Sauce	All Hallows Academy	A. Branson
898	Moreno	Antonio	8	Soda's Impact on Staining Teeth	St. Peter the Apostle Catholic School	E. Czarnowski
899	Shaikh	Zaid	7	Antacids: Synthetic vs. Natural	Bright Horizon Academy 6-8	N. Nasereldin

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Proj ID	Last Name	First Name	Gr	Project Title	School	Tchr/Advisor
Junior Division - Product Testing (PROD) cont'd						
900	Ezquivel	Layla	8	What Brand of Soil Absorbs the Most Water	Chula Vista Middle School	T. Tom
902	Mizan	Almog	8	Detergents Vs. Stains	San Diego Hebrew Day School	S. Jones
903	Kennedy	Madelyn	7	Leaving the Least Dog Hair: Microfiber, Vinegar, Packing Tape, & a Lint Roller	St. Michael's School - Poway	W. Wolters
904	Lau	Alexis	8	The Mouthwash Brand that is Best at Getting Rid of Bacteria	Mt. Helix Academy	K. MacDonald
905	Leal	Lorenzo	8	What Lotion Moisturizes the Best	Mt. Helix Academy	K. MacDonald
906	Nguyen	Apollo	7	Which Plastic is Strongest Against Weight Dropping, High Heat, and Bending? ABS, PLA, or PETG?	Nazareth School	M. Reed
907	Shores	Adriano	7	Which Type of NFL Mouthguards Are the Best?	Nazareth School	M. Reed

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STUDENT LISTING BY LAST NAME

Last Name	First Name	Proj ID	DIV/CAT	Gr.	School	Tchr/Adv
Abdulaziz	Omar	537	JR - BEHA	7	Bright Horizon Academy 6-8	N. Naserelddin
Adamson	Parker	685	JR - COMP	8	All Hallows Academy	A. Branson
Adler	Ben	767	JR - EEMT	8	San Diego Hebrew Day School	S. Jones
Ajanovic	Aya	515	JR - ANIM	7	Bright Horizon Academy 6-8	N. Naserelddin
Alcantara	Mikha	159	SR - BMDE	12	Bonita Vista High School	M. Mardahl
Alcaraz	Gianna	808	JR - MCRO	8	Chula Vista Middle School	T. Tom
Allende	Carmina	770	JR - EEMT	7	Nazareth School	M. Reed
Allport	Alexander	702	JR - EAEV	7	The Children's School	D. Quincannon
Ally	Remy	851	JR - PLNT	7	St. Michael's School - Poway	W. Wolters
Aly	Omar	609	JR - BMDE	7	Bright Horizon Academy 6-8	N. Naserelddin
Amon	Pablo	895	JR - PROD	7	All Hallows Academy	A. Branson
Andersen	Noah	855	JR - PLNT	8	De Portola Middle School	M. Bridges
Andersen	Sven	394	SR - PHYS	11	San Diego High School Complex	N. Raiewski
Anderson	Vivien	401	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Angulo Hernandez	Hiram	406	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Anthony	Adam	768	JR - EEMT	8	De Portola Middle School	M. Bridges
Aravind	Vishnu	209	SR - CBIO	11	Del Norte High School	S. Kumar
Arias	Eduardo	291	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Armstrong	Maya	866	JR - PLNT	8	Mt. Helix Academy	K. MacDonald
Arnaudy	Elodie	835	JR - PHYS	7	City Tree Christian School 6-8	M. Lee
Arnold	Wyatt	864	JR - PLNT	8	Mt. Helix Academy	K. MacDonald
Arora	Aarav	225	SR - CBIO	11	Del Norte High School	A. Callicott
Austin	Reed	733	JR - EEMR	7	St. John School - Encinitas, CA	G. Heins
Ayesta Hollstein	Sebastian	715	JR - EAEV	8	Stella Maris Academy	S. Eckmann
Badal	Jai	391	SR - PHYS	12	University City High School	S. Badal
Badal	Rohan	391	SR - PHYS	10	University City High School	S. Badal
Bailey	Lauren	824	JR - PHYS	7	Coastal Academy	B. Biernacki
Balderrabano	Luciana	514	JR - ANIM	8	Stella Maris Academy	S. Eckmann
Bantval	Dhruv	604	JR - BMDE	8	Pacific Trails Middle School	E. Main
Bantval	Maya	583	JR - BCHM	6	Sage Canyon Elementary School	K. Arthur
Barrett	Aimee	151	SR - BMDE	12	Central Union High School	L. Rueda
Barroso	Isabella	510	JR - ANIM	7	Nativity School	L. McTavish
Bartos	Cielo	546	JR - BEHA	8	Stella Maris Academy	S. Eckmann
Bausch	Kira	526	JR - BEHA	8	St. John School - Encinitas, CA	G. Heins
Benjalil	Lillianna	896	JR - PROD	8	Mt. Helix Academy	K. MacDonald
Bhalla	Nupur	121	SR - BEHA	9	Del Norte High School	A. Callicott
Bharadwaj	Akshaj	214	SR - CBIO	11	Canyon Crest Academy	E. Gerstin
Birch	Charlotte	867	JR - PLNT	8	City Tree Christian School 6-8	M. Lee
Birch	Sophia	612	JR - BMDE	6	City Tree Christian School 6-8	M. Lee
Bomar	Dylan	822	JR - PHYS	8	Mt. Helix Academy	K. MacDonald
Boniske	Joey	545	JR - BEHA	8	San Diego Hebrew Day School	S. Jones
Bosworth	Arya	372	SR - MATH	9	Poway High School	K. Woldseth
Bosworth	Rohan	372	SR - MATH	12	Poway High School	K. Woldseth
Botello	Natalie	153	SR - BMDE	12	Central Union High School	A. Ortiz
Breskin	Nosson	511	JR - ANIM	8	San Diego Hebrew Day School	S. Jones
Brocius	Ashton	527	JR - BEHA	7	The Children's School	D. Quincannon
Brown	Logan	333	SR - EEMR	10	High Tech High North County	C. Sailor
Bruno	Liz	871	JR - PLNT	8	Stella Maris Academy	S. Eckmann
Caballero	Noah	145	SR - BCHM	12	Bonita Vista High School	M. Mardahl
Cai	Cindy	392	SR - PHYS	11	Canyon Crest Academy	Y. Liu
Cano	Sofia	151	SR - BMDE	12	Central Union High School	L. Rueda
Cantorna	Eva	611	JR - BMDE	7	Nazareth School	M. Reed
Cao	Shannon	181	SR - CELL	11	La Jolla High School	J. Zhang
Capaldi	Charlotte	809	JR - MCRO	7	The Rhoades School	R. Hunker
Capetanakis	Victoria	806	JR - MCRO	7	St. John School - Encinitas, CA	G. Heins
Capetanakis	Yianna	861	JR - PLNT	8	St. John School - Encinitas, CA	G. Heins
Carreon	Marcello	832	JR - PHYS	8	All Hallows Academy	A. Branson
Catanzaro	Marcus	355	SR - EEMT	11	Cathedral Catholic High School	M. Rafie
Cena	Abby	736	JR - EEMR	7	St. Michael's School - Poway	K. de Venecia
Chandra	Vikramaditya	393	SR - PHYS	10	San Marcos High School	S. Biredy
Chang	Iason	894	JR - PROD	8	Mt. Helix Academy	K. Macdonald
Chang	Melinda	243	SR - COMP	11	Canyon Crest Academy	E. Gerstin
Chen	Justin	163	SR - BMDE	12	Torrey Pines High School	B. Belyea

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Last Name	First Name	Proj ID	DIV/CAT	Gr.	School	Tchr/Adv
Chen	Steven	602	JR - BMDE	7	Pacific Trails Middle School	A. Milholland
Chen	Trevor	213	SR - CBIO	10	Westview High School	S. Halander
Chen	Zoey	830	JR - PHYS	7	Carmel Valley Middle School	T. Kim
Connors	Kaelyn	275	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Conway	Sophia	739	JR - EEMR	7	Mt. Helix Academy	K. MacDonald
Cooper	Aaron	704	JR - EAEV	6	Community Montessori Charter School Carlsbad	I. Cooper
Corona	Gianluca	643	JR - CHEM	8	All Hallows Academy	A. Branson
Dabbah	Esther	405	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Dagar	Arnav	257	SR - COMP	9	Canyon Crest Academy	A. Siegel
Dai	Nathan	152	SR - BMDE	11	Canyon Crest Academy	E. Gerstin
Day	Andrew	162	SR - BMDE	11	Torrey Pines High School	B. Belyea
Delara	Sarah	402	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Denning	Will	734	JR - EEMR	8	All Hallows Academy	A. Branson
Diep	Emily	684	JR - COMP	7	Connect Academy Poway Unified	J. Teixeira
Dogra	Saanvi	202	SR - CBIO	9	Del Norte High School	S. Dhandra
Donboli	Stella	804	JR - MCRO	7	St. Gregory the Great Catholic School	S. Dasgupta
Dresios	Demetrios	396	SR - PHYS	10	Carlsbad High School	A. Velentza
du Preez	Benjamin	682	JR - COMP	7	St. Gregory the Great Catholic School	S. Dasgupta
Ehsan	Anabia	504	JR - ANIM	6	Bright Horizon Academy 6-8	N. Naserelddin
Eiseman	Maxwell	812	JR - MCRO	8	San Diego Hebrew Day School	S. Jones
Enriquez	Jonathan	272	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Escotet	Santiago	641	JR - CHEM	8	All Hallows Academy	A. Branson
Evans	Mia	512	JR - ANIM	8	Mt. Helix Academy	K. MacDonald
Ezquivel	Layla	900	JR - PROD	8	Chula Vista Middle School	T. Tom
Fan	Benjamin	250	SR - COMP	12	The Bishop's School	M. Jaiclin
Fan	Kara	383	SR - MCRO	12	Westview High School	S. Halander
Fan	Leanne	168	SR - BMDE	9	Westview High School	S. Halander
Ffrench	Ellarose	854	JR - PLNT	7	St. Gregory the Great Catholic School	S. Dasgupta
Flores	Sebastian	856	JR - PLNT	8	Mt. Helix Academy	K. MacDonald
Foss	Spencer	112	SR - BEHA	10	San Diego Jewish Academy 9-12	P. Hagarman
Franey	Mackenzie	502	JR - ANIM	7	St. Michael's School - Poway	K. de Venecia
Fries	Sam	160	SR - BMDE	11	St. Augustine High School	T. Fries
Gallego	Demetrio	897	JR - PROD	8	All Hallows Academy	A. Branson
Ganji	Vibha Yadav	167	SR - BMDE	9	Del Norte High School	N.R. Ganji
Ganji	Vidha Yadav	224	SR - CBIO	9	Del Norte High School	N. R. Ganji
Gantla	Maanaskumar	203	SR - CBIO	12	Canyon Crest Academy	A. Siegel
Gao	Sarah	290	SR - EAEV	10	Canyon Crest Academy	E. Gerstin
Garcia Barbosa	Cynthia	165	SR - BMDE	12	Bonita Vista High School	M. Mardahl
Garcia Barbosa	Seleena	154	SR - BMDE	12	Bonita Vista High School	M. Mardahl
Gardner	Molly	541	JR - BEHA	7	Mt. Helix Academy	K. MacDonald
Garg	Aarushi	115	SR - BEHA	10	Canyon Crest Academy	E. Gerstin
Garrity	Ruth	858	JR - PLNT	7	The Children's School	D. Quincannon
Garrity	Simon	858	JR - PLNT	7	The Children's School	D. Quincannon
Geering	Giselle	219	SR - CBIO	12	Bonita Vista High School	M. Mardahl
Giometti	Collin	251	SR - COMP	10	San Marcos High School	S. Shade
Go	Olivia	538	JR - BEHA	7	The Rhoades School	R. Hunker
Goncalves	Lily	530	JR - BEHA	8	St. John School - Encinitas, CA	G. Heins
Gramme	Reese	860	JR - PLNT	7	St. Gregory the Great Catholic School	S. Dasgupta
Guan	Sophia	244	SR - COMP	11	The Bishop's School	M. Jaiclin
Hall	Kennedy	868	JR - PLNT	8	Mt. Helix Academy	K. MacDonald
Hamel	Leo	740	JR - EEMR	8	Mt. Helix Academy	K. MacDonald
Hashemi	Emilia	805	JR - MCRO	7	St. Michael's School - Poway	L. Ray
Hernandez	Daniel	271	SR - EAEV	10	Bonita Vista High School	M. Mardahl
Hettena	Evan	834	JR - PHYS	7	Mt. Helix Academy	K. MacDonald
Holmlin	Mikaela	633	JR - CELL	8	The Children's School	D. Quincannon
Hooper	Clare	860	JR - PLNT	7	St. Gregory the Great Catholic School	S. Dasgupta
Horowitz	Avinadav	813	JR - MCRO	8	San Diego Hebrew Day School	S. Jones
Huebscher	Rebekah	646	JR - CHEM	6	Heritage Christian School	E. Huebscher
Hulse	Madison	823	JR - PHYS	7	Nazareth School	M. Reed
Huschke	Tim	715	JR - EAEV	8	Stella Maris Academy	M. Flores
Hussain	Daanya	161	SR - BMDE	11	Bright Horizon Academy 9-12	N. Naserelddin
Ibarra Almanza	Melany	141	SR - BCHM	10	Central Union High School	L. Rueda
Imperial	Francine Dezarae	273	SR - EAEV	11	Bonita Vista High School	J. Ekstein

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Iniguez	Priscilla	401	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Irigreddy	Ritvik	226	SR - CBIO	11	Canyon Crest Academy	E. Gerstin
Jafari	Mariam	505	JR - ANIM	8	The Cambridge School High School	M. Mayne
Jaimovich	Adam	607	JR - BMDE	7	The Rhoades School	R. Hunker
Jeyaprakash	Arunraj	221	SR - CBIO	10	Canyon Crest Academy	A. Siegel
Juneau	Amelie	283	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Jung	Eleanor	228	SR - CBIO	12	Mt. Carmel High School	A. Klingborg
Kalapala	Isabella	543	JR - BEHA	8	St. Peter the Apostle Catholic School	E. Czarnowski
Kalkin	Rebecca	755	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Kalyanaraman	Anirudh	155	SR - BMDE	10	Mt. Carmel High School	A. Klingborg
Kang	Ella	514	JR - ANIM	8	Stella Maris Academy	S. Eckmann
Kantorovich	Yosef	547	JR - BEHA	8	San Diego Hebrew Day School	S. Jones
Kathiravan	Gautam	245	SR - COMP	10	Canyon Crest Academy	D. Celniker
Kazi	Hafsah	382	SR - MCRO	10	Bright Horizon Academy 9-12	N. Naserelddin
Kehrli	Jack	757	JR - EEMT	7	All Hallows Academy	A. Branson
Keiser	Miles	212	SR - CBIO	10	Del Lago Academy	I. Tsigelny
Kennedy	Madelyn	903	JR - PROD	7	St. Michael's School - Poway	W. Wolters
Kent	Giuliana	548	JR - BEHA	7	Nazareth School	M. Reed
Khan	Safwa	116	SR - BEHA	11	Bright Horizon Academy 9-12	N. Naserelddin
Khattar	Zinia	166	SR - BMDE	10	Del Norte High School	J. Cheskaty
Kim	Angelina	331	SR - EEMR	10	The Bishop's School	M. Jaclin
Kim	Hudson	276	SR - EAEV	10	Westview High School	W. Kim
Ko	Lyla	683	JR - COMP	7	St. Gregory the Great Catholic School	S. Dasgupta
Kozak	Patrick	701	JR - EAEV	7	All Hallows Academy	A. Branson
Krishnan	Maya	157	SR - BMDE	11	La Jolla Country Day School	D. Valji
Kuckenbaker	Brooke	528	JR - BEHA	8	St. John School - Encinitas, CA	G. Heins
Kuemmerle	Nolan	113	SR - BEHA	12	Bonita Vista High School	M. Mardahl
Kulkarni	Rishika	191	SR - CHEM	11	Francis Parker School	J.P. Pierce
Kulkarni	Vidhi	229	SR - CBIO	11	Del Norte High School	C. Craig
Kumar	Alex	209	SR - CBIO	11	Del Norte High School	S. Kumar
Kumar	Sanjana	284	SR - EAEV	11	Francis Parker School	J.P. Pierce
Ladisa	Michael	769	JR - EEMT	7	Nazareth School	M. Reed
Larsen	Tymbur	869	JR - PLNT	6	City Tree Christian School 6-8	M. Lee
Lau	Alexis	904	JR - PROD	8	Mt. Helix Academy	K. MacDonald
Leal	Lorenzo	905	JR - PROD	8	Mt. Helix Academy	K. MacDonald
Lee	Woojin	260	SR - COMP	11	Otay Ranch High School	C. Pearson
Leem	Ethan	803	JR - MCRO	8	Pacific Trails Middle School	E. Main
Leonhardt	Jake	852	JR - PLNT	8	All Hallows Academy	A. Branson
Li	Aaron	261	SR - COMP	9	Francis Parker School	Y. Sun
Lindsey	Ashlie	647	JR - CHEM	8	City Tree Christian School 6-8	M. Lee
Liu	Derek	371	SR - MATH	12	Torrey Pines High School	B. Belyea
Loebig	Maya	528	JR - BEHA	8	St. John School - Encinitas, CA	G. Heins
Long	Lily	542	JR - BEHA	8	The Rhoades School	R. Hunker
Louie	Patrick	503	JR - ANIM	8	Farb Middle School	P. Huntington
Lu	Daniel	204	SR - CBIO	11	Westview High School	S. Halander
Lu	Frederick	242	SR - COMP	11	Canyon Crest Academy	A. Mauro
Lugasi	Eliyahu	814	JR - MCRO	8	San Diego Hebrew Day School	S. Jones
Luna	Nicolette	285	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Luo	Anna	352	SR - EEMT	9	Canyon Crest Academy	E. Gerstin
Ma	Kevin	217	SR - CBIO	12	Canyon Crest Academy	E. Gerstin
Macinnes	William	752	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Madhukara	Nandana	220	SR - CBIO	10	Canyon Crest Academy	E. Gerstin
Magtoto	Brianna	258	SR - COMP	11	Bonita Vista High School	J. Ekstein
Magtoto	Cherise	403	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Maldonado	Sebastian	892	JR - PROD	8	All Hallows Academy	A. Branson
Mandyam	Tanya	101	SR - ANIM	9	Westview High School	M. Christopher
Marce	Bernardo	707	JR - EAEV	8	Our Lady of Guadalupe Academy	J. Patton
Marcuson	Elena	292	SR - EAEV	10	Holtville High School	B. Sorenson
Marsh	Olivia	836	JR - PHYS	8	Eastlake Middle School	A. Thacker
Martin	Jaden	142	SR - BCHM	11	Central Union High School	L. Rueda
Matkov	McKayla	703	JR - EAEV	8	The Children's School	D. Quincannon
McGreevy	Isaac	120	SR - BEHA	11	La Jolla High School	K. Dill
Meehan	Robert	531	JR - BEHA	7	Mt. Helix Academy	K. Macdonald

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Miranda	Biancka	810	JR - MCRO	8	Chula Vista Middle School	T. Tom
Mitchell	Reid	829	JR - PHYS	7	Mt. Helix Academy	K. MacDonald
Mizan	Almog	902	JR - PROD	8	San Diego Hebrew Day School	S. Jones
Mohammad	Aamina	710	JR - EAEV	7	Bright Horizon Academy 6-8	N. Naserelddin
Mondal	Raunak	247	SR - COMP	10	Del Norte High School	J. Mortensen
Montemayor	Maliya	751	JR - EEMT	8	St. John School - Encinitas, CA	G. Heins
Moreno	Antonio	898	JR - PROD	8	St. Peter the Apostle Catholic School	E. Czarnowski
Muir	Madison	853	JR - PLNT	8	The Children's School	D. Quincannon
Munshi	Ronit	332	SR - EEMR	10	Canyon Crest Academy	D. Munshi
Murphy	John	527	JR - BEHA	7	The Children's School	D. Quincannon
Musse	Omar	711	JR - EAEV	7	Bright Horizon Academy 6-8	N. Naserelddin
Myers	Gabriel	513	JR - ANIM	8	San Diego Hebrew Day School	S. Jones
Na	Grace	117	SR - BEHA	11	Bonita Vista High School	J. Ekstein
Nagal	Matthew	828	JR - PHYS	8	Mt. Helix Academy	K. MacDonald
Nakach	Jayden	815	JR - MCRO	8	San Diego Hebrew Day School	S. Jones
Nandhimandalam	Medha	143	SR - BCHM	11	Westview High School	D. McMartin
Nava	Diego	407	SR - PLNT	12	Bonita Vista High School	M. Mardahl
Naveed	Haadi	714	JR - EAEV	8	Bright Horizon Academy 6-8	N. N.
Nayak	Ayush	395	SR - PHYS	12	Westview High School	S. Halander
Nayebnazar	Arshia	223	SR - C BIO	11	Canyon Crest Academy	T. Mauro
Neubrand	Colt	758	JR - EEMT	7	Nazareth School	M. Reed
Nguyen	Apollo	906	JR - PROD	7	Nazareth School	M. Reed
Nguyen	Kristine	827	JR - PHYS	8	Chula Vista Middle School	T. Tom
Nguyen	Vivian	219	SR - C BIO	12	Bonita Vista High School	M. Mardahl
Noblejas	Eliza	277	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Nunez	Junalene	286	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Oani	Madeleine	293	SR - EAEV	11	Bonita Vista High School	J. Ekstein
O'Dea	Emma	535	JR - BEHA	7	Nazareth School	M. Reed
O'Leary	Caroline	756	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Onstott	Katherine	871	JR - PLNT	8	Stella Maris Academy	S. Eckmann
Ortiz Calva	Jose	821	JR - PHYS	8	All Hallows Academy	A. Branson
Ouchmame	Zackaria	738	JR - EEMR	7	Bright Horizon Academy 6-8	N. Naserelddin
Owen	Brooklynn	831	JR - PHYS	7	Classical Conversations	K. Owen
Paband	Khadija	811	JR - MCRO	7	Bright Horizon Academy 6-8	N. Naserelddin
Pacente	Jack	753	JR - EEMT	7	Mt. Helix Academy	K. MacDonald
Pai	Krish	201	SR - C BIO	10	Canyon Crest Academy	E. Gerstin
Pallapotu	Eshika	218	SR - C BIO	9	Del Norte High School	J. Cheskaty
Park	Alex	120	SR - BEHA	11	La Jolla High School	K. Dill
Parthasarathy	Jeyanth Narayan	771	JR - EEMT	7	Pacific Trails Middle School	A. Milholland
Parthiban	Sidhaarth	601	JR - BMDE	7	The Cambridge School High School	M. Mayne
Patel	Shreeya	183	SR - CELL	10	Del Norte High School	C. Craig
Pathria	Sachin	681	JR - COMP	8	The Children's School	D. Quincannon
Patil	Yash	334	SR - EEMR	10	Sage Creek High School	S. Patil
Perham	Josephina	525	JR - BEHA	7	The Children's School	D. Quincannon
Perkins	Philip	533	JR - BEHA	7	St. Gregory the Great Catholic School	S. Dasgupta
Poch	Maia	759	JR - EEMT	7	The Children's School	D. Quincannon
Potter	Mason	533	JR - BEHA	7	St. Gregory the Great Catholic School	S. Dasgupta
Poulin	Madeline	762	JR - EEMT	7	Nazareth School	M. Reed
Powers	John	765	JR - EEMT	7	The Rhoades School	R. Hunker
Powers	McCoy	732	JR - EEMR	7	Coastal Academy	B. Biernacki
Pradis	Leilani	153	SR - BMDE	12	Central Union High School	A. Ortiz
Proshkin	Alexander	254	SR - COMP	12	Canyon Crest Academy	E. Fisher
Qarar	Yusra	585	JR - BCHM	7	Bright Horizon Academy 6-8	N. Naserelddin
Qiao	Edward	250	SR - COMP	12	The Bishop's School	M. Jaclin
Qiu	Nathan	259	SR - COMP	9	Canyon Crest Academy	T. Mauro
Quezada	Jayne	156	SR - BMDE	12	Bonita Vista High School	M. Mardahl
Quezada	Lily	522	JR - BEHA	7	St. John School - Encinitas, CA	G. Heins
Raagas	Caleb	754	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Ramesh	Shivani	210	SR - C BIO	11	Scripps Ranch High School	P. Fowler
Ramirez	Cameron	111	SR - BEHA	10	Central Union High School	L. Rueda
Rao	Rahul	353	SR - EEMT	11	Canyon Crest Academy	K. Rao
Rao	Rikhil	256	SR - COMP	11	Canyon Crest Academy	K. Hare
Rao	Saanvi	255	SR - COMP	10	Canyon Crest Academy	A. Siegel

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Ravi	Medha	539	JR - BEHA	7	The Rhoades School	R. Hunker
Ravi	Tejas	282	SR - EAEV	10	Canyon Crest Academy	K. Shakeri
Revilla-Harker	Joaquin	708	JR - EAEV	7	St. Gregory the Great Catholic School	S. Dasgupta
Rhoades	Lyra	274	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Rhodes	Kevin	761	JR - EEMT	8	De Portola Middle School	M. Bridges
Richardson	Ryan	735	JR - EEMR	7	St. John School - Encinitas, CA	G. Heins
Rico	Carlene	278	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Robertson	Lana	534	JR - BEHA	7	Mt. Helix Academy	K. MacDonald
Robitaille	Daniel	404	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Robitaille	Olivia	272	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Robledo	Robert	294	SR - EAEV	12	Bonita Vista High School	J. Ekstein
Rodriguez	Eric	524	JR - BEHA	8	Mt. Helix Academy	K. MacDonald
Rohling	Trevor	521	JR - BEHA	7	St. Gregory the Great Catholic School	S. Dasgupta
Roman	Alexander	279	SR - EAEV	11	Bonita Vista High School	J. Ekstein
Rowe	Tyler	708	JR - EAEV	7	St. Gregory the Great Catholic School	S. Dasgupta
Roy	Phoebe	603	JR - BMDE	7	Nazareth School	M. Reed
Rull	Andreas	606	JR - BMDE	8	St. John School - Encinitas, CA	G. Heins
Rupesh	Bhadra	208	SR - CBIO	11	The Bishop's School	L. Keller
Salmeron	Yandel	712	JR - EAEV	8	Chula Vista Middle School	T. Tom
Samy	David	205	SR - CBIO	11	Canyon Crest Academy	K. Hare
Sanchez	Nicholas	409	SR - PLNT	11	Bonita Vista High School	J. Ekstein
Sayed	Zakari	607	JR - BMDE	7	The Rhoades School	R. Hunker
Schelper	Leilani	759	JR - EEMT	7	The Children's School	D. Quincannon
Schere	Bella	523	JR - BEHA	7	The Children's School	D. Quincannon
Schroeder	Jorge	893	JR - PROD	8	All Hallows Academy	A. Branson
Sengupta	Srija	280	SR - EAEV	10	Westview High School	S. Halander
Shaikh	Zaid	899	JR - PROD	7	Bright Horizon Academy 6-8	N. Naserelddin
Shaw	Gavin	501	JR - ANIM	7	St. Gregory the Great Catholic School	S. Dasgupta
Shen	Emma	253	SR - COMP	11	Del Norte High School	J. Cheskaty
Shores	Adriano	907	JR - PROD	7	Nazareth School	M. Reed
Siddiqui	Aminah	605	JR - BMDE	7	Bright Horizon Academy 6-8	N. Naserelddin
Sisitki	Sofia	546	JR - BEHA	8	Stella Maris Academy	S. Eckmann
Solomon	Gabe	760	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Soukup	Branden	825	JR - PHYS	8	Mt. Helix Academy	K. MacDonald
Sparks	Carter	760	JR - EEMT	7	St. Gregory the Great Catholic School	S. Dasgupta
Spooner	Casey	644	JR - CHEM	7	St. Gregory the Great Catholic School	S. Dasgupta
Sridharan	Agastya	252	SR - COMP	11	Scripps Ranch High School	P. Fowler
Sternson	Samuel	863	JR - PLNT	7	The Rhoades School	R. Hunker
Stevens	Mia	706	JR - EAEV	7	All Hallows Academy	A. Branson
Stidman	Sofia	540	JR - BEHA	7	Nazareth School	M. Reed
Sun	Ethan	351	SR - EEMT	10	The Bishop's School	B. Heldt
Sun	Grace	182	SR - CELL	12	The Bishop's School	L. Keller
Sun	James	211	SR - CBIO	10	Canyon Crest Academy	E. Gerstin
Sung	Ihan	865	JR - PLNT	8	Eastlake Middle School	A. Thacker
Sunga	Eiffel	118	SR - BEHA	12	Bonita Vista High School	J. Ekstein
Susan	Rachel	826	JR - PHYS	8	Coastal Academy	B. Biernacki
Tapia	Afrika	713	JR - EAEV	8	Chula Vista Middle School	T. Tom
Tatineni	Nitika	335	SR - EEMR	11	Canyon Crest Academy	A. Mauro
Tianshi	Kyle	295	SR - EAEV	11	The Cambridge School High School	M. Mayne
Tinnerstet	West	509	JR - ANIM	8	Coastal Academy	B. Biernacki
Trevino	Nythalia	716	JR - EAEV	8	Chula Vista Middle School	T. Tom
Trinh	Reagan	801	JR - MCRO	7	St. Gregory the Great Catholic School	S. Dasgupta
Trujillo	Ashlyn	584	JR - BCHM	8	St. Peter the Apostle Catholic School	E. Czarnowski
Tsui	Andrew	144	SR - BCHM	11	Canyon Crest Academy	A. Siegel
Usher	Nicholas	333	SR - EEMR	11	High Tech High North County	C. Sailor
Venverloh	Nora	645	JR - CHEM	8	The Children's School	D. Quincannon
Vignevic	Jake	642	JR - CHEM	7	St. Gregory the Great Catholic School	S. Dasgupta
Villarroel	Emerson	870	JR - PLNT	7	City Tree Christian School 6-8	M. Lee
Vivek	Nithika	218	SR - CBIO	9	Del Norte High School	J. Cheskaty
Wang	Chloe	206	SR - CBIO	10	Canyon Crest Academy	E. Gerstin
Wang	Grace	216	SR - CBIO	11	Del Norte High School	J. Mortensen
Wang	John	381	SR - MCRO	11	Canyon Crest Academy	E. Gerstin
Wang	Zhijing	227	SR - CBIO	11	Canyon Crest Academy	E. Gerstin

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Weiser	Menachem	544	JR - BEHA	8	San Diego Hebrew Day School	S. Jones
Weyer	Sammy	705	JR - EAEV	8	All Hallows Academy	A. Branson
Wilson	Mia	802	JR - MCRO	7	All Hallows Academy	A. Branson
Wise	David	287	SR - EAEV	11	St. Augustine High School	J. Brophy
Wroblewski	Mila	709	JR - EAEV	7	Thurgood Marshall Middle School	N. Wroblewski
Wu	Jialu	119	SR - BEHA	10	La Jolla Country Day School	D. Lenzen
Xiao	Tyler	253	SR - COMP	11	Del Norte High School	J. Cheskaty
Xiong	Nathan	192	SR - CHEM	11	The Bishop's School	P. Reynolds
Xu	Kate	289	SR - EAEV	10	Del Norte High School	B. West
Xu	Kayley	686	JR - COMP	8	The Bishop's School	J. Jordan
Xu	Shirley	249	SR - COMP	12	The Bishop's School	M. Jaiclin
Yadav	Anvay	288	SR - EAEV	9	Del Norte High School	A. Callicott
Yu	Andrew	207	SR - CBIO	11	Canyon Crest Academy	E. Gerstin
Zeller	Keanu	764	JR - EEMT	7	The Rhoades School	R. Hunker
Zeng	Lilian	281	SR - EAEV	9	Del Norte High School	J. Cheskaty
Zettle	Emily	857	JR - PLNT	8	St. John School - Encinitas, CA	G. Heins
Zhang	Jocelyn	354	SR - EEMT	11	Del Norte High School	F. Liao
Zhang	Sydney	241	SR - COMP	10	Westview High School	M. Ingram
Zhu	Virginia	731	JR - EEMR	7	Oak Valley Middle School	Y. Yu
Zubaidi	Ahmad	763	JR - EEMT	7	Bright Horizon Academy 6-8	N. Naserelddin
Zwahlen	Maddie	891	JR - PROD	7	St. Gregory the Great Catholic School	S. Dasgupta
Zwierzykowski	Katrina	586	JR - BCHM	8	City Tree Christian School 6-8	M. Lee

2023 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:

Bonita Vista High School... Ekstein, Jennifer
Bonita Vista High School... Mardahl, Michelle
Bright Horizon Academy 9-12... Naserelddin, Najwan
Canyon Crest Academy... Celniker, Dvora
Canyon Crest Academy... Fisher, Evan
Canyon Crest Academy... Gerstin, Ed
Canyon Crest Academy... Hare, Kevin
Canyon Crest Academy... Liu, Yang
Canyon Crest Academy... Mauro, Tony
Canyon Crest Academy... Munshi, Devashish
Canyon Crest Academy... Rao, Kavitha
Canyon Crest Academy... Shakeri, Kaveh
Canyon Crest Academy... Siegel, Alex
Carlsbad High School... Velentza, Anastasia
Cathedral Catholic High School... Rafie, Marjan
Central Union High School... Ortiz, Alexander
Central Union High School... Rueda, Lourdes
Del Lago Academy... Tsigelny, Igor
Del Norte High School... Callicott, Andrea
Del Norte High School... Cheskaty, Juli
Del Norte High School... Craig, Courtney
Del Norte High School... Dhanda, Sandeep
Del Norte High School... Ganji, Nagamalleswara
Del Norte High School... Kumar, Sanjay
Del Norte High School... Liao, Frank
Del Norte High School... Mortensen, John
Del Norte High School... West, Briana
Francis Parker School... Pierce, J.P.
Francis Parker School... Sun, Yu

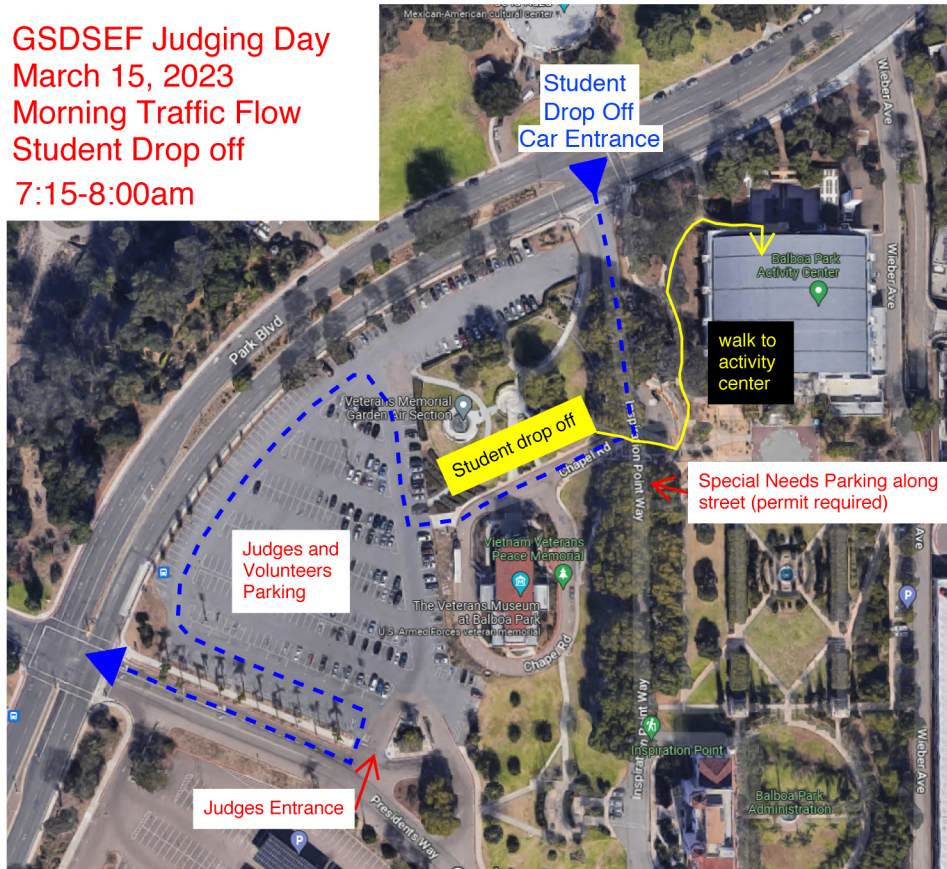
High Tech High North County... Sailor, Caroline
Holtville High School... Sorenson, Bonnie
La Jolla Country Day School... Lenzen, Daniel
La Jolla Country Day School... Valji, Diana
La Jolla High School... Dill, Kerry
La Jolla High School... Zhang, Jade
Mt. Carmel High School... Klingborg, Amy
Otay Ranch High School... Pearson, Chad
Poway High School... Woldseth, Kelly
Sage Creek High School... Patil, Sudhir
San Diego High School Complex... Raiewski, Nichole
San Diego Jewish Academy 9-12... Hagarman, Patrick
San Marcos High School... Bireddy, Sreelatha
San Marcos High School... Shade, Staci
Scripps Ranch High School... Fowler, Patty
St. Augustine High School... Brophy, Jessica
St. Augustine High School... Fries, Tom
The Bishop's School... Heldt, Benjamin
The Bishop's School... Jaiclin, Marcus
The Bishop's School... Keller, Lani
The Bishop's School... Reynolds, Pamela
The Cambridge School High School... Mayne, Melissa
Torrey Pines High School... Belyea, Brinn
University City High School... Badal, Sumit
Westview High School... Christopher, Matt
Westview High School... Halander, Scott
Westview High School... Ingram, My-Nga
Westview High School... Kim, Won
Westview High School... McMartin, David

JUNIOR DIVISION:

All Hallows Academy... Branson, Ali
Bright Horizon Academy 6-8... Naserelddin, Najwan
Carmel Valley Middle School... Kim, Tania
Chula Vista Middle School... Tom, Tina
City Tree Christian School 6-8... Lee, Michelle
Classical Conversations... Owen, Kelly
Coastal Academy... Biernacki, Bridget
Community Montessori Charter School Carlsbad... Cooper, Ilene
Connect Academy Poway Unified... Teixeira, Janice
De Portola Middle School... Bridges, Michael
Eastlake Middle School... Thacker, Amanda
Farb Middle School... Huntington, Patricia
Heritage Christian School... Huebscher, Elizabeth
Mt. Helix Academy... MacDonald, Kayla
Nativity School... McTavish, Lindsay
Our Lady of Guadalupe Academy... Patton, Joshua

Pacific Trails Middle School... Main, Ellen
Sage Canyon Elementary School... Arthur, Kelly
San Diego Hebrew Day School... Jones, Stephen
St. Gregory the Great Catholic School... Dasgupta, Sudipta
St. John School - Encinitas, CA... Heins, Gena
St. Michael's School - Poway... de Venecia, Kathryn
St. Michael's School - Poway... Ray, Lara
St. Michael's School - Poway... Wolters, Whitney
St. Peter the Apostle Catholic School... Czarnowski, Elena
Stella Maris Academy... Eckmann, Sara
Stella Maris Academy... Flores, Megan
The Bishop's School... Jordan, James
The Cambridge School High School... Mayne, Melissa
The Children's School... Quincannon, Diana
The Rhoades School... Hunker, Roxanne
Thurgood Marshall Middle School... Wroblewski, Nicole

GSDSEF Judging Day
 March 15, 2023
 Morning Traffic Flow
 Student Drop off
 7:15-8:00am



GSDSEF Judging Day
 March 15, 2023
 Afternoon Traffic Flow
 Student Pick up
 2:45-3:30 pm

