

INFORMATION & EXHIBITOR DIRECTORY



The 64th Annual
Greater San Diego

SCIENCE & ENGINEERING FAIR

March 13 - March 18, 2018

BALBOA PARK ACTIVITY CENTER
www.gsdsef.org

SPONSORED BY



Also supported by industry, education, friends of science in San Diego and Imperial counties and nationwide.

Welcome to the 64th Annual Greater San Diego Science and Engineering Fair!



2018 GSDSEF Schedule of Events

<p>Tuesday, March 13, 2018</p> <p>Sign In and Project Set Up Day</p>	<p>Project Sign in and Setup Day Balboa Park Activity Center (BPAC)</p> <ul style="list-style-type: none"> • Sign in and set up projects - 1 pm to 7 pm • Sign-up for tours! • Purchase GSDSEF souvenirs.
<p>Wednesday, March 14, 2018</p> <p>Judging Day</p>	<p>Judging Day – BPAC - 8 am - 2:45 pm, Students/Judges only!</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. • Student may bring a foldable chair to use when not speaking to judges. • Do not forget to bring your lunch! Food is NOT available for purchase and you will NOT be permitted to leave to buy any.
<p>Thursday, March 15, 2018</p> <p>Open to Public Awards Ceremony</p>	<p>Open to Public - 10 am - 3 pm • Admission and Parking are FREE.</p> <ul style="list-style-type: none"> • Student Exhibitors receive free admission to many of the Balboa Park museums and the San Diego Zoo with their exhibitor badge. <p>Awards Ceremony – San Diego Air & Space Museum</p> <ul style="list-style-type: none"> • Doors open at 5pm - Ceremony begins at 5:30pm (ends approximately at 8:30pm). • No awards will be announced until the ceremony. ALL students receive an award.
<p>Friday, March 16, 2018</p> <p>Open to Public & Media Day</p>	<p>Open to Public – 10 am - 3 pm • Admission and Parking are FREE.</p> <p>Media Day</p> <ul style="list-style-type: none"> • Student Exhibitors receive free admission to many of the Balboa Park museums and the San Diego Zoo with exhibitor badge.
<p>Saturday, March 17, 2018</p> <p>Open to Public</p>	<p>Open to Public – 10 am - 3 pm • Admission and Parking are FREE.</p> <ul style="list-style-type: none"> • Student Exhibitors receive free admission to many of the Balboa Park museums and the San Diego Zoo with exhibitor badge.
<p>Sunday, March 18, 2018</p> <p>Open to Public Family Day</p> <p>Closing and Project Take Down Day</p>	<p>Open to Public - 10 am - 3 pm • Admission and Parking are FREE.</p> <p>Family Day Activities – Presentations, Demonstrations and Hands-On Science.</p> <ul style="list-style-type: none"> • The entire family is welcome to participate in these activities! • Student Exhibitors receive free admission to many of the Balboa Park museums and the San Diego Zoo with exhibitor badge. <p>Project Take-Down – ALL PROJECTS MUST remain on display until 3 pm, no exceptions!</p> <ul style="list-style-type: none"> • Project Take Down - 3 pm - 4 pm. • Please bring your exhibitor badge as identification to remove your project. • Note to Exhibitors: When you applied to enter the GSDSEF, you and your parent(s)/guardian(s) agreed to leave your project on display until 3 pm, Sunday, March 19. There are no exceptions to this agreement! You (or your representative) are responsible for removing your project. • NOTE: PROJECTS NOT REMOVED BY 4:30 pm on Sunday, March 18 will be discarded that evening, 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.

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.

Since 1954, the GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR (GSDSEF) has provided an inspiring experience in science and engineering for thousands of San Diego and Imperial County students, motivating them to pursue careers in science, technology, engineering, and mathematics. We provide a regional competition that challenges students to go beyond classroom studies to do independent research – to ask compelling questions, to design and implement innovative solutions, and to present and defend results to judges who are professionals in their fields.

The GSDSEF students' STEM achievements showcase how young minds can make an impact in the present and future.

...Inspirational...motivational...transformative... For over 60 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 7 through 12 who attends public, private, parochial or home schools in San Diego County or Imperial County may enter a project for screening and a possible invitation to the GSDSEF.

Awards and Benefits of Being in the GSDSEF

- The most important benefit for all student exhibitors is the opportunity to display their projects, meet with other exhibitors and share views and projects with professional scientists.
- A certificate of merit is given to each exhibitor in recognition of his/her efforts.
- Exhibitors are given opportunities to attend special scientific tours and several Balboa Park museums during Science Fair week.
- First, second, third and fourth place ribbon awards are given for projects in each category in both Senior and Junior Divisions.
- Four Senior and Four Junior Division Sweepstakes runners up will receive cash awards.
- Four Junior Division Sweepstakes winners receive cash awards.
- Eight Senior Division Sweepstakes projects are awarded. Six Senior Division Sweepstakes projects receive college scholarship awards and the opportunity to compete in the INTEL International Science and Engineering Fair. One Senior Division Sweepstakes winner receives a scholarship from AFCEA.
- Engraved plaques are given to all Sweepstakes winners, alternates and runners-up.
- Other awards, presented to exhibitors individually on stage, include: Fred H. Rohr Memorial Award, Reuben H. Fleet Memorial Award, Harry Barnett Memorial Awards, San Diego Oceans Foundation Scholarship, Mickey Award, Ronald Domb Memorial Award, Professional Engineers in California Government Scholarships, and Student Advisory Board Awards.
- 60 Professional Societies provide over 150 special awards and/or scholarships.
- Junior and Senior Division Teacher of the Year Awards are selected among nominations made by science fair participants.

There are four main divisions in the GSDSEF:

Junior Division Life Sciences (Grades 7—8); Junior Division Physical Sciences (Grades 7—8)
Senior Division Life Sciences (Grades 9—12); Senior Division Physical Sciences (Grades 9—12)

Our 16 Project Categories

- Animal Sciences
- Behavioral and Social Sciences
- Biochemistry
- Chemistry
- Computer Science
- Earth and Planetary Science
- Engineering – Electrical and Mechanical
- Engineering – Energy and Transport
- Engineering – Materials and Bioengineering
- Environmental Sciences and Management
- Mathematical Sciences
- Medicine and Health
- Microbiology
- Physics and Astronomy
- Plant Sciences
- Product Testing/Consumer Science (Junior Division Only)

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, in-kind support and volunteers to our Science Fair.

Sponsors and Donations

Diamond Level Donor: Beckton Dickinson
UT San Diego
San Diego County Office of Education
PECG (Professional Engineers in California Government)
Reuben H. Fleet Science Center
Hologic Zable Foundation
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San Diego Science Educators Association
General Atomics Sciences Education Foundation
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Jack in the Box
Kinder Morgan Foundation
Jack in the Box
Sony Playstation
AFCEA
UTC Aerospace Systems
ONR (Office of Naval Research)
San Diego Taiwanese Cultural Center
San Diego Zoo Global Wildlife Conservancy Friends of Science
San Diego City Parks and Recreation
San Diego County Office of Education

GSDSEF is an Affiliate of the following:

Intel International Science and Engineering Fair
Broadcom Masters
California State Science Fair



Area Merchants, Businesses, Community Organizations

Balboa Park Activity Center
San Diego Air and Space Museum
Copy-It Printing
eScrip Program
Imperial County Office of Education
ONR (Office of Naval Research) Volunteers
Raphael's Party Rentals
San Diego Zoo Global-Education Department
Tu's Printing & Graphics
T-Shirt Mart Kearney Mesa
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Volunteer Match
Volunteer Singles of San Diego

64th Annual Greater San Diego Science & Engineering Fair - 2018

Board of Directors

Phil Gay
CEO/Fair Director

Wendy Gay
VP School Relations

GSDSEF Management Committee 2017-2018

Awards

Chair: True Xiong, *Sony Playstation*
Sany Zakharia, *Qualcomm*
Sam Ferguson, *USD*
Phil Gay
Elaine Gillum, *Marshall MS, Retired*

Awards Fleet Report

Chair: Phil Gay
William Proffer, *Leidos*

Data Processing & Compiling

Co-Chair: Sany Zakharia, *Qualcomm*
Co-Chair: True Xiong, *Sony Playstation*
Dale Clarke, *Mirum*
Douglas Smith, *Leidos*
Jie Wang, *Jack-in-the-Box*

Facilities/Venues

Chair: Phil Gay
Steve Rodecker, *SDSEA*

Family Day

Maggie Chen, *SAB Co-Chair*
Daniel Zhang, *SAB Co-Chair*
Aadil Rehan, *SAB VP*
Colin Tam, *SAB Outreach Chair*
Sam Ferguson, *USD*

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Co-Chair: Donna Spevack
Co-Chair: Sany Zakharia, *Qualcomm*
True Xiong, *Sony Playstation*
James Kuo, *Athena Bioventures*
Alina Pollner, *SAB Co-Secretary*

Gift Shop

Jessica Ullyot, *Gompers Charter*

Graphic Arts & Publications

Chair: Jelen Rodecker
Wendy Gay

Historians

Chair: Don Pankau, *retired engineer*
Douglas Smith, *Leidos*

Hospitality

Chair: Melanie Guentner

Judging

Coordinator: Larry Nordell, *Marine Tech Soc.*
Co-Chair: Vickie Driver, *Zim Biosciences*
Howard Grunloh, *General Atomics*
Annalese Kapteina, *MD*
Peter Salamon, *UCSD*

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Chair: Kevin Guentner, *Estate Services*
Chair: Chris Guentner,

Parking & Traffic

Chair: James Kuo, *Athena Bioventures*
Gigi Kuo, *Athena Bioventures*

Professional Societies

Chair: Adina Sobo, *Morse High School*
Sejal Pabari
Alyson Smith, *Scripps Institute*
Douglas Smith, *Leidos*
Diane Vermeulen, *Prof Engineers in CA Gov*
Zie Nie

Project Advice & Mentoring

Chair: Steve Rodecker, *SDSEA*
Mark Atkins, *Ace Parking*
Hal Slater
Brendan Haberle

Project Size & Safety

Chair: Hal Slater
Steve Rodecker, *SDSEA*
Qun Wei
Brendan Haberle

Public Relations & Marketing

Chair: Kimberly Ferguson, *Roche*
Co-Chair: Sany Zakharia, *Qualcomm*
Arwa Alkhawaja, *Islamic School*
Sejal Pabari
William Proffer, *Leidos*

School Relations

Chair: Wendy Gay
Co-Chair: Steve Rodecker
Liaison SDCOE: John Spiegel
Liaison ICOE: John Lazarcik
Liaison Diocese: Julia Cantillion

Screening

Coordinator: Steve Rodecker
Co-Chair MS: Rose Armour
Co-Chair HS: Maryanna Quon Warner
Janet Nordeen
Donna Kritz-Silverstein, *UCSD*

Scientific Review Committee

Chair: Phil Gay, Wendy Gay
Intern Chair: True Xiong
Steve Rodecker, *SDSEA*
Brendan Haberle
Sabine Otilie, *UCSD*
Douglas Smith, *Leidos*

Student Advisory Board

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Alina Pollner, *Co-Secretary*
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SAB Advisors

Chair: Fardusa Sharif
Co-Chair: Phil Gay
Wendy Gay
Lucy Chen
Jie Wang
Jelen Rodecker
Kevin Guentner

Tours

Chair: Maria Pankau

Volunteer Coordinating

Chair: True Xiong, *Sony Playstation*
Donna Spevack
Barb Ritchie, *Francis Parker, Retired*

Website Design & Maintenance

Designer: Dale Clarke, *Mirum*
Co-Chairs: Jelen Rodecker
Co-Chair: Wendy Gay
Douglas Smith, *Leidos*
Mark Atkins, *Ace Parking*
Aadil Rehan, *SAB Vice-Chair*

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

64th GSDSEF 2017-18



STUDENT ADVISORY BOARD

Student Advisory Board (SAB) Board of Directors

Maggie Chen (*Canyon Crest Academy*) – Chair

Daniel Zhang (*Westview High*) – Chair

Aadil Rehan (*Canyon Crest Academy*) – Vice-Chair

Alina Pollner (*Canyon Crest Academy*) – Secretary

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Colin Tam (*Eastlake High*) – Head of Outreach

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Arlyn Fabian, *Otay Ranch High*
Julia Situ, *Canyon Crest Academy*
Ananya Rao, *Scripps Ranch High*
Veronica McKinney, *Mira Mesa High*
Aditya Guru, *Torrey Pines High*
Richa Singh, *Scripps Ranch High*
Vivek Vijayakumar, *San Marcos High*
Joonhyuk Lee, *Scripps Ranch High*
Reva Agashe, *Canyon Crest Academy*

Eddy Li, *Canyon Crest Academy*
Lucas Huang, *Mt. Everest Academy*
Sophia Chen, *Torrey Pines High*
Ken Lew, *La Jolla Country Day*
Adhithi Narayana Murthy, *Marshall Middle*
Andrew Kuang, *Carmel Valley Middle*
Andrew Chen, *La Jolla High*
Saeyeon Ju, *Scripps Ranch High*
Elliott Kim, *Scripps Ranch High*
Emily Tianshi, *The Cambridge School*

Student Advisory Board Advisors:

Phil & Wendy Gay, Fardusa Sharif, Lucy Chen, Jie Wang, Jelen Rodecker, Kevin Guentner

The Student Advisory Board (SAB) is the Fair's Student Honor Society. These students:

- plan and present Science Fair "How To" workshops for student exhibitors
- actively participate in the planning of the Fair at monthly meetings during the year
- help design the current year's T-shirt logo
- assist with many aspects of the Fair itself, including setup/teardown, registration, project size and safety check
- plan, conduct, and oversee Family Science Day activities
- act as year-round ambassadors to schools and communities

The SAB is a great place for students of all backgrounds to come together and enjoy science, technology, engineering and mathematics while polishing their leadership skills.

More about SAB? Find us at the Fair (we wear cool T-Shirts) or email us at gdsdsefsab@gmail.com

AWARDS CEREMONY

March 15, 2018 – San Diego Air & Space Museum

Presenting Sponsor: Becton Dickinson

PROGRAM

- 3:00 pm – San Diego Air and Space Museum will open for GSDSEF Student Exhibitors and their families
- 5:00 pm – Pavilion will open for Awards Ceremony
- 5:30 pm – Professional Societies Awards listed on Big Screen
- 6:00 pm – National Anthem, Pledge of Allegiance, Opening and Announcements
- 6:15 pm – Keynote Speaker: Jason Strohm, *Becton Dickinson*
- 6:20 pm – Presentation of Special Awards
Presentation of Categorical Awards
Presentation of Sweepstakes Awards

Special Acknowledgements and Appreciation

City of San Diego Parks & Recreation

Herman Parker, Dir. of Parks & Recreation
Berenecé Mora, Recreation Center Director, BPAC
Brett Stanley, Assistant Center Director, BPAC
Vicki Hara, Area Manager

Balboa Park Activity Center (BPAC)

John Gascon
Latece Foster
Thai Lay
Stephen Howell
Janette Montero
Sofia Bianconi
Noah Jones-Ross



San Diego Air & Space Museum

Melissa Paris
Kevin Brinkman

The Balboa Park Rangers

Ryan Robertson
Balboa Park Rangers

Photography

Elizabeth Traugher

Directory Cover Design:

Donna Spevack

Directory

Jelen Rodecker

SPECIAL RECOGNITION

Morse High School JROTC Color Guard, who participates at the Awards Ceremony
Morse High School Hungry Tiger Restaurant for their catering services during Fair week

***Our gratitude
to the volunteers who help in
countless ways to produce the
64th Annual GSDSEF!***



**If you would like to
volunteer, sponsor the Fair,
or donate money, please go
to www.gsdsef.org**

Special Appreciation to

Dale Clarke for creating and developing the new GSDSEF website and Jelen Rodecker for the content.

www.gsdsef.org

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How Projects are Invited to Participate in the GSDSEF

After participating in their school or district-level science fairs, top projects are then recommended to go through the GSDSEF screening process. Students create a PowerPoint presentation which is screened by professionals from the science, engineering, technology, and education fields. Projects that are “recommended” are invited to participate in the GSDSEF. In 2017, approximately 750 students submitted their project for screening and screeners spent a hundred hours or more each reviewing presentations for uniqueness and adequate scientific method/engineering design principles.

Note from Phil and Wendy Gay:

Thank you to all of the Screening Volunteers for sitting in front of their computers looking at student projects presented to them in PowerPoint format. AND Thanks to the teachers, students, and parents who adapted to this process of assessing projects for entrance into the GSDSEF!

Who Judges the GSDSEF

At the GSDSEF, 400+ 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. Additionally, sixty professional societies and organizations provide more than 150 special awards and scholarships. Judges for Sweepstakes Awards have 5 or more years of science fair judging experience.



How Projects are Judged for Category Awards:

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

1. 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 involved.

2. Scientific Thought/Engineering Goals –

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. Engineering Goals: The project has a clear objective relevant to the needs of the potential user. The product or process has been tested and is workable and economically and ecologically feasible.

3. Thoroughness –

The study is complete within scope of the problem. Scientific literature has been searched and experiments have been repeated and careful records have been kept.

4. Skill –

Credit is given for special skills needed for the construction or use of equipment and for mathematical, computational, and observational and design skills.

5. Clarity –

The purpose, procedures, and conclusions are clearly explained orally and through a display. The project notebook is well organized, neat and accurate. Sources of ideas, data and assistance are clearly identified.

6. Teams (Senior Division only) –

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.

*The GSDSEF Management Committee and Phil and Wendy Gay
would like to give a special recognition and thank you to all judges, new and returning!
There would be no fair without these dedicated professionals who take the time out of their busy schedules to talk to students
– to share their own passion for science and engineering
and to encourage these talented young minds in their pursuits to be the next generation
of scientific and technological discovery and innovation!*



Professional Society and Recognition Awards



Each Professional Society or Organization determines their own judging standards based on their organization's criteria and award projects accordingly. They provide more than 150 special recognition awards and scholarships to students totaling over \$25,000. 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.

- American Chemical Society
- American Institute of Aeronautics and Astronautics, San Diego Section
- American Society for Nondestructive Testing, San Diego Section
- American Society of Civil Engineers
- American Society of Heating, Refrigerating, & Air Conditioning Engineers
- American Society of Materials International, San Diego Chapter
- American Society of Mechanical Engineers
- American Statistical Association, San Diego Chapter
- Armed Forces Communications and Electronics Association
- Association of Women in Science, San Diego Chapter
- Biophysical Society
- Buena Vista Audubon
- Building Industry Cares
- California Academy of Nutrition and Dietetics, San Diego District
- California Association of Professional Scientists
- CA Environmental Health Association – Southwest Chapter/County of San Diego, Dept. of Environmental Health
- California School Nurse Organization: SD/Imperial Section Organization of San Diego & Imperial County
- Friends of Famosa Slough
- General Atomics Sciences Education Foundation
- Grantville-Allied Gardens Kiwanis Club
- Hillcrest-Mission Valley Lions Club
- Institute of Electrical and Electronics Engineers
- Kaiser Permanente
- Marine Technology Society
- National Oceanic and Atmospheric Administration
- Price-Pottenger Nutrition Foundation
- Professional Engineers in California Government
- San Diego Astronomy Association
- San Diego Audubon Association
- San Diego Chapter of the Human Factors and Ergonomics Society
- San Diego Chapter of the International Dark Sky Association
- San Diego Children and Nature Collaborative
- San Diego County Dental Society
- San Diego County Optometric Society
- San Diego County Pharmacists Association
- San Diego County Veterinary Medical Association
- San Diego County Water Authority
- San Diego for Science
- San Diego Psychological Association
- San Diego Science Educators Association
- San Diego Shell Club
- San Diego Skeptic Society
- San Diego Society of Health-System Pharmacists
- San Diego Zoo Global
- Scripps Institute of Oceanography Climate Science Award
- Sigma Xi: The Scientific Research Honor Society (San Diego Chapter)
- Society for the Advancement of Material and Process Engineering
- Society of American Military Engineers
- Society of Fire Protection Engineers: San Diego and Inland Empire Chapter
- Society of Toxicology: Southern California Regional Chapter
- Society of Women Engineers – San Diego County Section
- Stockholm Jr. Water Prize
- The City of San Diego's Environmental Services Department
- The Ron Orta Excellence in Biomedical Research Award
- Torrey Pines Docent Society
- United States Air Force
- USN – ONR (US Navy Science and Technology) / Naval Science Awards Program (NSAP)
- WateReuse Association – San Diego Chapter

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



Becton Dickinson Award for "Advancing the World of Health"
Fred H. Rohr Award
Mickey Award
Office of Naval Research
Professional Engineers in California Government Scholarships
Ronald Domb Memorial Award
Reuben H. Fleet Memorial Award
San Diego Zoo Global
Student Advisory Board (SAB) Awards
Arthur Friedman Memorial Science Fair Teacher of the Year: Junior Division
Arthur Friedman Memorial Science Fair Teacher of the Year: Senior Division



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ORGANIZATIONS PROVIDING JUDGES TO THE 64th ANNUAL GSDSEF

The GSDSEF thanks the following companies, organizations, and schools for providing judges:

ABC Pediatrics	Golden West Solar	Ramona Research
AIPG	Grossmont Hospital	Resolute Therapeutics
Alliant International University	Haley & Aldrich, Inc	SAIC
American Incite	Halozyme, Inc	Salk Institute
Apricus Biosciences, Inc.	Hewlett Packard	SAMPE
Aptima	Hillcrest Internal Medicine	San Diego Audubon
Asamoto Engineering Consulting	HI-Q Environmental Products Co, Inc.	San Diego City College
Athena Bioventures	Hologic, Inc.	San Diego County Sheriff's Crime Lab
Aviva	Illumina	San Diego Gas and Electric
Awen Labs	Infrastructure Engineering Corporation	San Diego Jewish Academy
BAE Systems	Innovative Machinery Sales, Inc.	San Diego State University
Bailey Environmental Associates, LLC	Inova Diagnostics, Inc.	San Diego Zoo
Banck Clinical Research Center	Intertek Pharmaceuticals	Scripps Institute of Oceanography
Bastyr University California	Intuit Inc.	Scripps Research Institute (TSRI)
Becton Dickinson	Irvine Scientific	SDMC
Beckman Coulter	Islamic School of San Diego	Signet Accel
BEWiSE	J. Craig Venter Institute	Softcomm
Big Block Realty	JPL	Solar Turbines
Blue Path Solutions	JTY Tech	Sony Interactive Entertainment
Booz Allen Hamilton	JWT Worldwide	Southwest Fisheries Science Center
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CDM Smith	Little Dog Communications	Takeda California Inc
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County of SD Air Pollution Control Dist.	Nanalysis Corp	US Navy
CSU-San Marcos	National Weather Service	US Navy Surface Forces
CTC	Naval Health Research Center	University of California, San Diego
cypress semiconductor	NDP	UC San Diego Health
DAS	NOAA Fisheries	UC San Diego School of Medicine
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Diane Ritchey-Andrews, Atty at Law	Optical Services Company	Vital Therapies
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Thank you to those who continue to support students and science and engineering education by judging at the Fair:

- Retired engineers, professors, scientists, medical doctors, researchers, and programmers from Janssen Research, University of Minnesota, Honeywell, Kaiser, Hewlett Packard, SAIC, SDSU, US Navy, UCSD, and other companies and organizations.
- Retired educators from El Cajon Valley School District, Escondido Union School District, Sweetwater Union High School District, Grossmont Union School District, and the San Diego Jewish Academy.



64th Annual Greater San Diego Science & Engineering Fair - 2018



HIGHLIGHTS from the 2017 GSDSEF



- Nearly 750 students submitted their 10-slide PowerPoint presentation of their projects to be screened into the fair.
- More than 600 students were recommended to participate in the fair.
- 30 Screeners and 400+ judges who reviewed projects, interviewed student-exhibitors, and decided on awards
- Over 50 Professional Societies who gave Special Awards and/or scholarships

Category Awards:

- **Junior Division:** 109 First Place, 160 Second Place, 155, Third Place, 47 Fourth Place
- **Senior Division:** 35 First Place, 23 Second Place, 22 Third Place Awards. 9 Fourth Place

Special Awards:

- 97 who qualified for the California State Science Fair (CSSF)
- 7 Senior Division students who went to the INTEL International Science and Engineering Fair (ISEF)
- 60 Junior Division Students who were eligible for the Broadcom Masters competition
- 150+ Special Awards totaling over \$20,000 from Professional Societies and Organizations

GSDSEF Results at the California State Science Fair (CSSF) 2017

(out of 927 students from 400 schools statewide)

Category Place Awards:

- Junior Division: 4 First Place, 1 Second Place, 4 Third Place, 2 Fourth Place, 5 Honorable Mentions
- Senior Division: 2 First Place, 2 Second Place, 3. Third Place, 0 Fourth Place, 9 Honorable Mentions

Special Awards/Recognition Awards:

- Math Teacher's Awards For Excellence, \$1,250: Rachana Madhukara, 9th grade, Canyon Crest Academy
- Clinical Chemistry Award, \$200, Jessie Gan, 7th grade, San Diego Jewish Academy
- Plug-In America EV Excellence Award Senior Division, \$100, Phillippe Hanson Estruch, 11th grade, Canyon Crest Academy
- Plug-In America EV Excellence Award Junior Division, \$100, Veronica McKinney, 8th grade, Good Shepherd Catholic
- SPIE Optics and Photonics Award, 2nd Place, \$600: Dominic Catanzaro, 12th grade, Cathedral Catholic School
- UCLA Brain Research Institute Award, 1st Place, \$250: Nithya Krishnamurthy, 11th grade, Canyon Crest Academy

Broadcom Masters Results

(out of 2,499 students from 49 states and 4 US territories)

Top 300 Finalists:

- ◆ Yusuf Amanullah, 8th grade, Islamic School of San Diego
- ◆ Aidan Byrnes, 7th grade, The Rhoades School
- ◆ Francisco Catanzaro, 8th grade, Pacific Beach Middle
- ◆ Peter Eckmann, 8th grade, Stella Maris
- ◆ Jessie Gan, 8th grade, San Diego Jewish Academy
- ◆ Atulya Mandyam, 7th grade, Mesa Verde Middle
- ◆ Alexandra Orczyk, 8th grade, The Rhoades School
- ◆ Raj Pabari, 7th grade, Coastal Academy
- ◆ Lauren Reilly, 8th, St. Rose of Lima Chula Vista
- ◆ Emily Shi, 8th grade, The Cambridge School

Top 30 Finalists (15 girls/15 boys nationwide):

- ◆ Jessie Gan, 8th grade, San Diego Jewish Academy
- ◆ Emily Shi, 8th grade, The Cambridge School

Special Awards:

- ◆ Robert Wood Johnson Foundation Award, \$20,000: Emily Shi
- ◆ STEM Award- Science Award 2nd Place, \$2500: Jessie Gan



INTEL International Science and Engineering Fair (ISEF):

(out of 1778 students from 78 countries and all 50 states)

Category Place Awards:

- Biomedical and Health Sciences - Best of Category, \$5000: Daniel Zhang, 11th grade Westview High School
- Biomedical and Health Sciences - First Award, \$3000: Daniel Zhang, 11th grade, Westview High School (+ \$1000 for Westview High and \$1000 for GSDSEF)
- Biomedical Engineering - Third Award, \$1000: Samuel Ferguson, 12th grade, Christian Unified High School
- Microbiology - First Award, \$3000: Maggie Chen, 11th grade, Canyon Crest Academy
- Plant Sciences - Third Award, \$1000: Paul Gavreau, 12th grade, Canyon Crest Academy

Special Awards:

- Ricoh Sustainable Development Award, \$10,000: Paul Gavreau, 12th grade, Canyon Crest Academy
- Philip V. Streich Memorial Award - 2-week trip to the London International Youth Forum: Daniel Zhang, Westview HS
- University of the Sciences Awards, \$15,000/yr scholarship effective on enrollment: Daniel Zhang, Westview HS
- SPIE International Society for Optics and Photonics – Third Award, \$1000: Dominic Catanzaro, Cathedral Catholic HS



GSDSEF Student Tour Opportunity



San Diego Zoo "Inside Story Tour

Friday, March 16, 2018
12:30 – 4:00 pm
Cost: \$10.00 per student-exhibitor

We will depart from the front of the Balboa Park Activity Center (the Science Fair building) at 12:30 pm. Students will be escorted by certificated teachers/chaperones. We will walk to the Zoo entrance where we will meet our Zoo Professional Educator Guides. The tour will include a bus ride with behind-the-scenes stops not open to the general public. The tour concludes at 3:30 pm, we will then walk back to the activity center for dismissal.

Science Fair Students Enjoy Our Beautiful BALBOA PARK AND MUSEUMS



SPECIAL NOTE

The parent/guardian's signature on the Application for entrance to the GSDSEF provides the necessary permission for students to participate in the San Diego Zoo tour and other activities in Balboa Park. **FOR ALL GSDSEF ACTIVITIES, A STUDENT-EXHIBITOR MUST FOLLOW THEIR SCHOOL'S FIELD TRIP ATTENDANCE PRODECURES.**

Exhibitors Badges give all student-exhibitors free admission to most of the museums in Balboa Park between the conclusion of Judging on Wednesday, March 14, 2018 and the end of Science Fair on Sunday, March 18, 2018. Please check the Balboa Park website at www.balboapark.org for a list of museums and their hours.

FREE ADMISSION TO THE MUSEUMS IS ONLY FOR STUDENT-EXHIBITORS WEARING HIS/HER EXHIBITOR BADGE AND NOT FOR FAMILY MEMBERS OR FRIENDS.

- ❖ To enter the San Diego Zoo for free using your badge, report to the Zoo Guest Relations window.
- ❖ Special Exhibits at a museum may require a fee (at the student price). This includes admission to the IMAX Theater at the Reuben H. Fleet Science Center.

FACILITIES AND MUSEUMS TO ENJOY WHILE AT BALBOA PARK:



Botanical Gardens
Mingei International Museum
Museum of Photographic Arts
Reuben H. Fleet Space Museum
San Diego Air & Space Museum
San Diego Art Institute
San Diego Automotive Museum

San Diego Hall of Champions
San Diego Model Railroad Museum
San Diego Museum of Art
San Diego Natural History Museum
San Diego Zoo Global
Timken Museum of Art
Veterans Museum & Memorial



We encourage students to enjoy Balboa Park with a friend or in a group



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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Senior Division -- Animal Sciences						
101	Czajkowski Lonczewski	Aurora Sarah	10 11	The Effect of Eucalyptus Oil on the Behavior of Mealworms	Bonita Vista HS	Mardahl
102	Konyn	Kylie	9	Predicting the Future	St. Joseph Academy	Hanson
103	Lara	Mary Jasmine	11	The Effect of Voltage of Planarian Neoblasts	Olympian HS	More

Senior Division -- Behavioral and Social Sciences

106	Castillo	Mario	10	Is Multitasking with Different Subjects More Efficient?	King Chavez Community HS	Munoz
107	Gracia Lopez	Charlie Vanessa	10 12	Time Management on Students' G.P.A	Central Union HS - Imperial County	Rueda
108	Mojica Mendiola	Alondra Ashley	10 10	Ability to See Multiple Perspectives: Adolescents vs Adults	King Chavez Community HS	Munoz
109	Plancarte De La Rosa	Victor Alexis	11 11	Are We Stuck in a Social Media Bubble?	Central Union HS - Imperial County	Rueda

Senior Division -- Biochemistry

112	Chen	Sophia	11	NLRP3 Inflammasome Uptake in Stellate Cells and Effects on Activation	Torrey Pines High School	Newman
113	Cho	Helen	11	Functionality of TBP Non-conserved Region in Formation of SNAPc-TBP-Bdp1 Complex	Canyon Crest Academy	Haas
114	Feng	Andrew	10	A Customizable Single-Cell RNA-Seq Analysis Pipeline	Canyon Crest Academy	Haas
115	Gurram Wu	Sumanth David	11 11	The Effects of Low-Frequency EMFs on Cancer Cell Viability	Westview HS	Halander
116	Kalyuzhny	Joseph	10	An HPLC Study of Vitamin C Concentration in Citrus Fruits	Mt. Everest Academy	Tran
117	Kumar	Sahana	11	Visualization and Modeling of the CaMKII- δ Signaling Network in Cardiac Cells	Francis Parker School	Wimpey
118	Oba	Honoka	12	Affinity of different plant catalase enzymes for its substrate hydrogen peroxide	Bonita Vista HS	Mardahl
119	Razavilar	Aida	11	Employing Exosomes as a Novel Diagnostic and Prognostic Measure through EGFR and RNA Monitoring in Plasma Derived Exosomes of Brain Cancers	Canyon Crest Academy	Haas
120	Rehan Agashe	Aadil Reva	11 11	Plaque Attack: Is Mitochondrial Interference from Amyloid Precursor Protein a Cause of Alzheimer's?	Canyon Crest Academy	Haas
121	Situ	Julia	11	Identification and Functional Characterization of Circular RNAs in Drosophila	Canyon Crest Academy	Haas
122	Viswanath Konecny	Vainavi Benjamin	11 12	Evaluating the Effects of A211D and A211T Mutants on PKA	Canyon Crest Academy	Haas

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Senior Division -- Chemistry						
125	Barjesteh	Taraneh	12	Photo-induced Degradation of Porous Silicon via a Redox Active Etchant	Canyon Crest Academy	Haas
126	Juneja	Mitali	11	Artificial Sweetener to Butanol: Using Aspartame for a More Practical Biofuel Solution	Canyon Crest Academy	Haas
127	Yin	Andre	12	A Novel Approach to Increasing the Permeability of Desalination Membranes	Westview HS	Halander

Senior Division - Computer Science

130	Cosman	Ilan	10	Computer Vision for Detecting Errors in 3D Printing	La Jolla HS	Stuart
131	Gauvreau	Paul	12	Built by Blockchain: a universal api for non native cross chain smart contracts	Canyon Crest Academy	Haas
132	Li	Edward	11	Predicting the Effectiveness of Herbal Supplements Through Customer Purchase Data	Canyon Crest Academy	Haas
133	Lopatka	Kevin	10	Optimization in Training of Convolutional Neural Networks	Cathedral Catholic HS	Lopatka
134	Moldskred	Andreas	12	CoinHive-Blocker	Olympian HS	Claudio
135	Rao	Adithya	10	Smart Glove - American Sign Language (ASL) Fingerspelling to Speech Translator	Canyon Crest Academy	Haas
136	Sun Beg	William Harris	11 10	Skin Disease Recognition Via Deep Learning Algorithm	Canyon Crest Academy	Haas
137	Villanueva Sanchez	Tristan Carlos	12 12	Zeda Zoom	Olympian HS	Claudio
138	Villicana	Daniel	10	The Coding and Creation of a Video Game	Central Union HS - Imperial County	Rueda
139	Wu	Dustin	10	Analysis of Twitter: What Hashtags and What Retweets Get Broadcasted?	Pacific Ridge	Mudaliar
140	Yaramada	Sahithy	10	Novel image segmentation approach for the detection of malarial parasitic cells in blood smear images	Canyon Crest Academy	Haas

Senior Division -- Engineering - Electrical and Mechanical

143	Amanullah	Yusuf	9	A Smart Heart Monitoring System to Assist in Detecting Cardiovascular Abnormalities	Mt. Everest Academy HS	Pachon
144	Cantwell	Amanda	11	Piano Stairs	Central Union HS - Imperial County	Rueda
145	Catanzaro	Francisco	9	Bending Stress Forces in Bipedal Locomotion	Cathedral Catholic HS	Pena

64th Annual Greater San Diego Science & Engineering Fair - 2018

Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
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Senior Division -- Engineering - Electrical and Mechanical (cont)

146	Enriquez	Nicolas	11	A Multi-Purpose, Non-Invasive Vital Sign Monitor	Canyon Crest Academy	Haas
147	Roy	Ronak	11	Smartphone-Controlled Portable Phoropter Powered by Variable Focal Length Liquid Lens	Canyon Crest Academy	Haas
148	Srinivasan Reddy	Suraj Rakesh	11 10	Low Cost 3D-Printable Modular Prosthetic Hand with Active Control	Francis Parker High School	Hanscom
149	Sun	Daniel	12	METBIND: An Artificial Intelligence Approach to Metal Binding Site Prediction in Metalloproteins	Canyon Crest Academy	Haas

Senior Division -- Engineering - Energy and Transport

152	Dehaini	Dina	11	Researching Instability of Organic Solar Cells by Photodegradation and Preventative Solutions	Islamic School of San Diego	NasserIddin
153	Gillcrist	David	10	The Potential Energy of Different Cordages	Mt. Everest Academy	Negus
154	Lew	Ken	10	Graphene Oxide Advancement in Technology: Nanoparticle Application in Carbon Fiber Aircraft Design	La Jolla Country Day School	Padgett
155	Prado Vela	Luis Alvin	11 10	Plant Microbial Fuel Cell	Central Union HS - Imperial County	Rueda
156	Schremmer	Zachary	10	Greenhouse Stirling Engine	University City HS	Quessenberry

Senior Division -- Engineering - Materials and Bioengineering

159	Catanzaro	Isabella	11	Heat Transfer Optimization for Home Insulation	Cathedral Catholic HS	Rafie
160	Ju	Saeyeon	11	New Visualization and Analysis Approaches using 3D Electron Microscopy and 3D Printing Technologies: Studies of Optic Glioma Mouse Model and Retina Microcircuit	Scripps Ranch HS	Gillum
161	Rabe	Heidi	11	The Trumpet Player's Personal Practice Device	Central Union HS - Imperial County	Rueda
162	Ranganath	Shreya	11	Boron Carbide Coated in Situ Reinforced Titanium Matrix Composite	Bonita Vista HS	Mardahl
163	Reeb	Remy	10	Reducing the Incidence of Scald Burns in Children (Age Five & Under)	Cathedral Catholic HS	Lopatka
164	Singh	Richa	10	Heat Stroke Detection and Prevention	Scripps Ranch HS	Gillum

Senior Division -- Environmental Sciences and Management

167	Dehaini	Hamza	9	Clean Water from Solar Energy	Islamic School of San Diego	Naserelddin
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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Senior Division -- Environmental Sciences and Management (cont)						
168	Krasnow	Laura	11	Biodegradation of Low-Density Polyethylene by Marine Bacteria	Canyon Crest Academy	Haas
169	Rand	Emma	12	Using Water Hyacinth as a Tool in the Bioremediation of Nitrate Pollution	Bonita Vista HS	Mardahl
170	Vargas Vargas	Alfred Audrey	11 9	Solar Desalination Using a Parabolic Trough	Sweetwater HS	Sandoval
171	Groom-Castillo Tucker	Savannah Timothy	10 10	The Effect of Fertilizer on Water Snails	Bonita Vista HS	Mardahl

Senior Division -- Mathematical Sciences

173	Madhukara	Rachana	10	Asymptotics of Character Sums	Canyon Crest Academy	Haas
174	Neuner	Gilbert	12	Legal States of the Rubik's Cube	Bonita Vista HS	Mardahl

Senior Division -- Medicine and Health Sciences

177	Deng	Eden	11	Molecular Changepoints in the Aging Human Brain	Canyon Crest Academy	Haas
178	Frederick IV	William	9	How Tea Temperature Transforms Your Teeth	Mt. Everest Academy	Pachon
179	Gantla	Saikumar	11	Pharmaceutical Drug Mapping: Novel and Effective Tool for Clinical Applications	Canyon Crest Academy	Haas
180	Hansen-Estruch	Philippe	12	A microbiome approach to treat Galactosemia, a life-threatening genetic disorder	Canyon Crest Academy	Haas
181	Herrera Sanchez	Ayleen Natalia	12 12	Aerodynamic sports improve lung capacity (swimmers vs runners)	Bonita Vista HS	Mardahl
182	Hosseinian	Niki	10	The Synergistic Effects of Ellagic and Ascorbic Acids on Cancer Cell Proliferation	Canyon Crest Academy	Haas
183	Huang	Allen	11	Targeting eIF4A4 by RNA Interference: A New Strategy for Breast Cancer Therapy	Canyon Crest Academy	Haas
184	Liu	Andrea	11	Repurposing AZD4547 for Neuroblastoma	Canyon Crest Academy	Haas
185	Liu	Angela	11	Function of Fbxw7 in lung epithelium cell differentiation in postnatal mice	Torrey Pines HS	Newman
186	Mellinger	Ainslie	9	Exercising in a Pool and the Effects on the Heart Rate and Blood Pressure	Mt. Everest Academy	Pachon
187	Nava	Kiana	12	The Impact of Gender on Glaucoma in Mus musculus	Central Union HS - Imperial County	Rueda
188	Negrete Anderson	Alexis Nohemi	10 10	Smell Test for Alzheimer's	Central Union HS - Imperial County	Rueda
189	Nguyen	Emily	12	Effects of Dietary Supplements on Neuroregeneration in Dugesia Tigrina	Mt. Everest Academy	Pachon

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Senior Division -- Medicine and Health Sciences (cont)						
190	Qin	Judy	11	Genes Related to Melanoma Displaying the Ultraviolet Signature Mutation	Canyon Crest Academy	Haas
191	Shyy	Melody	10	Micro-RNA-483 Targeting Connective Tissue Growth Factor: Implication in Wound Healing	Canyon Crest Academy	Haas
192	Stallworth	Kayla	9	The Effect of Chamomile Tea on Daphnia's Heart Rate	Central Union HS - Imperial County	Rueda
193	Suri	Umit	10	The Incidence, Risk Factors, and Outcomes of Pneumothorax in Preterm infants	Francis Parker School	Hanscom
194	Torres	Amber	11	Neat Meat	Eastlake HS	Bayley
195	Villa Pacheco	Monica Dayan	12 12	Effect of Age on Peripheral Vision	Central Union HS - Imperial County	Rueda
196	Wang Agashe	Kaitlyn Ruchi	10 10	Effects of Interferons on Prostate Cancer Aggressiveness	Canyon Crest Academy	Haas
197	Zhang	Daniel	12	Transforming Rod to Cones: An Intein-based gRNA/Split-Cas9 system for Retinal Architecture Reconstruction and Vision Restoration	West View HS	Ingram
198	Zhao	Aaron	11	Kinetics Study of Hemolysis: Evaluation of the Hemolytic Strength of Lytic Reagents	Canyon Crest Academy	Haas
199	Wang	Justin	10	A Novel Approach to Cancer Immunotherapy: The Effect of Epigenetic Inhibition on Polarized Macrophages.	Canyon Crest Academy	Haas

Senior Division -- Microbiology

201	Badea	Megan E.	9	The Isolation and Identification of Antimicrobial Properties in Leptospermum Scoparium and Local Honey	Eastlake HS	Bayley
202	Diaz	Diego	9	Music Grows Bacteria	Gompers Prep Academy	Ullyott
203	Lee Chen	Ji Hyun Cynthia	11 11	Repurposing and combining therapies to find better treatment for leishmaniasis	Canyon Crest Academy	Haas
204	Lee	Joonhyuk	12	Conquering Antibody-Dependent Enhancement: Structurally Guided Identification of Strong Cross-Neutralization Inducing Epitopes on Flaviviruses	Scripps Ranch HS	Reddy
205	Leychkis	Daniel	10	Effects of Caffeine on Growth Inhibition of Bacteria in Broad-Spectrum Antibiotics	Canyon Crest Academy	Haas
206	Schapiro	Risa	10	Peppermint: Efficacy as an Oral Rinse II	Mt. Everest Academy HS	Negus
207	Vierling	Isabella	10	Synergistic Effects of Ag, Cu, and Zn NPs Against E. coli	Canyon Crest Academy	Haas

Senior Division -- Physics and Astronomy

210	Broudy	Isaac A	10	Testing Special Relativity with High Resolution Differential Photometry of Eclipsing Binary Systems	Bonita Vista HS	Mardahl
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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Senior Division -- Physics and Astronomy (cont)						
211	Candy	Fenna	9	Influence of Viscosity on Tampon Absorbency	Mt. Everest Academy HS	Pachon
212	Lake	Max	10	The Physics of Figure Skating Jumps	Mt. Everest Academy HS	Negus
213	Luansing Yu	Bianca Jannie	12	Parametric Studies of Plasma Detachment in a Linear Magnetized Device	San Diego HS Canyon Crest Ac	Robertson
214	Vijayakumar	Vivek	9	The Structure of Fibrils and Filaments on the Solar Chromosphere	San Marcos HS	Terrill
215	Zhu	Andy	11	Moth Eye Anti-Reflective Coating for Near-Infrared Astronomical Applications	Canyon Crest Academy	Haas

Senior Division -- Plant Sciences

217	Bertran	Jordi	11	The Burning Question: Is Biochar an effective soil amendment in drought regions	Pacific Ridge	Mudaliar
218	Oakes	Sebastian	10	How can Agrobacterium Tumefaciens can Help the Growth Rate of Mung Beans	Canyon Crest Academy	Haas
219	Pollner	Alina	10	Novel Strategy to Increase Fruit Production via CRISPR-Cas9 Genome Editing	Canyon Crest Academy	Haas
220	Tianshi	Emily	9	Microscopic Study of Torrey Pine Needles For Moisture Condensation	The Cambridge School	Gingrich

Junior Division -- Animal Sciences

501	Adajar	Allie	7	Environment: Affecting Genetic Inheritance	St. Michael's School - Poway	Poling
502	Armas	Lindsey	8	Flexibility in Adults vs Children	St. Michael Acad - San Diego	Okuley
503	Bradley	Finn	7	What Do Worms Do to the pH of Soil?	Nazareth School San Diego	Reed
504	Brewer	Alexandra	7	A Comparison of Three Mouse Diets by Gender	Santa Fe Christian School	Culley
505	Bruce	Isabel	7	Commercial Vs. Organic Farming: Effects on Night Time Pollinator Presence and Diversity	Rhoades School	Hunker
506	Carbine	Jake	7	Can You Grow Plants Using Fish ?	St. John School- Encinitas	Heins
507	Carbonell	Valerie	8	What the Flock?	St. Michael Acad - San Diego	Okuley
508	Carey	Meredith	7	"REDy or Not" Here Come the Hummingbirds	St. Mary School – Escondido	Martinez
509	Chazin	Tianne	8	Effectiveness of Homemade Ant Repellent on Linepithema humile	Rhoades School	Hunker
510	Crane	Natalie	7	Do Birds Have a Color Preference?	Bonita Vista Middle	Shimasaki

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Animal Sciences (cont)						
511	Girard	Quinn	8	The Effect of Shoulder Slope on Stride Length	The Children's School	Brown
512	Haim	Ariel	8	Perfecting Your Eggs	Soille SD Hebrew Day School	Bessler
513	Hamson	Jaxon	7	Investigating the Placement and Design of Orb Weavers' Webs	Rhoades School	Hunker
514	Hernandez	Roxanne	7	How Does Sunscreen Affect Shrimp?	Bonita Vista Middle	Abundes
515	Jeff	Amelia	8	Do Dogs Have a Dominant Paw?	The Children's School	Brown
516	Kadiyala	Anusha	8	Determining Dominance of Polygenic Traits	Bernardo Heights Middle	Carmichael
517	Lemon	Phoebe	8	Do Felines Discriminate Between Songs of Native vs. Non-Native Bird Species?	Rhoades School	Hunker
518	Lifset	Jude	8	Comparing Bat Populations in Open Space vs. Suburban Habitats	Rhoades School	Hunker
519	Mahmood	Umair	8	Investigating the Ingestion of Synthetic Polymers by Mealworms vs. Superworms	Rhoades School	Hunker
520	Mandyam	Atulya	8	Relating Voluntary Wheel Running to Changes in Levels of Dopamine- 2nd Year Study	Mesa Verde Middle	Bird
521	Miller	Adam	8	Which is More Efficient Fish Bait: Hot Dog or Velveeta?	Mt. Helix Academy	Cohen
522	Milliken	Chloe	7	Can Silkie Chicken Plumage Be Reliably Predicted?	Rhoades School	Hunker
523	Pallencaoe	Anna	7	Is the 3-Second Goldfish Memory Myth Actually True?	St. Therese Academy	Peterson
524	Pusateri	Gianna	7	Acoustical Impacts of Construction and Dredging on Bird Populations at San Elijo Lagoon	Rhoades School	Hunker
525	Shlemon	Nathan	7	Some Lizards Like it Hot!	Classical Conversations	Shlemon
526	Piazza	Patrick	7	How Does the Diet of An Earthworm Affect the pH of Soil	Bonita Vista Middle	Shimasaki
527	Woods	Ty	7	Does Time of Day Affects a Dog's Running Ability?	St. Therese Academy	Peterson

Junior Division -- Behavioral and Social Sciences

532	Adatto	Tzvi	8	Remember the Music	Soille SD Hebrew Day School	Bessler
533	Aguilar	Angella	8	The Effect of Itching Visuals on Transmissive Itching	The Children's School	Quincannon
534	Al-Jasim	Zainab	8	Can Men or Women Multitask?	Corfman/McCabe School-Imperial Co	Claverie
535	Alexa	Meza	8	How Different Eyes See Colors in Low Light	St. John of the Cross	Krumm
536	Atmaja	Raihan	8	Learn to Play, or Play to Learn?	Islamic School of San Diego	Alkhawaja

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Behavioral and Social Sciences (cont)						
537	Attisha	Zevin	7	A Handy Illusion	All Hallows Academy	Meza
538	Aurand	Ethan	8	How Pets Affect Stress	Farb Middle	Huntington
539	Babich	Evan	7	Creating a YouTube Sensation Using the Scientific Method	St. Columba School	Lunn
540	Barraza-Corpus	Rico	7	Effect of Texting on Finger Dexterity	St. Didacus School	Blickenstaff
541	Becker	Emma	7	The Effect of Music on Test Scores	St. Didacus School	Blickenstaff
542	Bendo	Christian	8	Which Basketball Shot is More Efficient: The Bank Shot or a Swish Shot?	St. Michael Acad - San Diego	Okuley
543	Bonakdar	Zoey	7	Can Fidget Spinners Spin Away Stress?	Stella Maris Academy	Lillie
544	Breise	Roland	7	Cheater Cheater Cookie Eater	The Children's School	Quincannon
545	Brewer	Kayla	8	The Effects of Visual Distraction on Recall	Rhoades School	Hunker
546	Brown	Ella	8	Judging a Book By Its Cover	The Children's School	Quincannon
547	Bundogji	Danna	7	Is Technology Good for Us After All	Islamic School of San Diego	Naserelddin
548	Caldwell	Raya	8	Typoglycemia: Can Yuor Barin Unscarmble the Wrods?	Grant Middle	Baldwin
549	Carbine	Emilie	8	Dog vs Cat People Personality Traits	St. John School-Encinitas	Heins
550	Cardenas-Marouf	Andreas	8	The Effect of a Yawning Video on the Amount of Yawns	The Children's School	Quincannon
551	Chaljon	Raquel	8	Placebo Effect	Soille SD Hebrew Day School	Bessler
552	Datiles	Czarina	7	Does Sleep Affect 7th Graders' Performance in School?	St. Therese Academy	Peterson
553	De Santis	Francesca	8	The Effect of Suggestion on Memory	St. Michael Acad - San Diego	Okuley
554	Dellacato	Casey	7	The Effects of Packaging on Children's Cereal Choices	St. Didacus School	Blickenstaff
555	Diaz	Maria	7	Does the Nose know Taste?	Sacred Heart - Coronado	Bartlett
556	Dominguez	Natalia	8	Which Font Affects Memory the Most?	Sacred Heart I - Coronado	Bartlett
557	Downs	David	8	What Would You Save?	The Children's School	Quincannon
558	Eggleton	Thomas	8	Who Can Thread the Needle Easily	Mt. Helix Academy	Cohen
559	Elasaad	Jasmine	8	Effectiveness of Method of Loci on Short-term and Long-term Memory	Rhoades School	Hunker
560	Elmi	Mumtaaz	7	What Factors Affect Emotional Intelligence?	Islamic School of San Diego	Naserelddin

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Behavioral and Social Sciences (cont)						
561	Enciso	Kamilah	7	Let's Run!	Sacred Heart I - Coronado	Bartlett
562	Espinoza	Ivan	8	Does Music Affect Your Concentration?	St. Michael Acad - San Diego	Okuley
563	Evans	Mia	7	Does Color Affect Taste?	Santa Fe Christian School	Culley
564	Farias	Emma	8	How Do Ads Persuade Us?	Our Lady of Guadalupe Acad - Imperial County	Patton
565	Galicot	Joseph	8	Peer Pressure	San Diego Jewish Academy	Deveau
566	Gomez	Carlos	8	Does the Color of Text Affect Memorization?	St. Michael Acad - San Diego	Okuley
567	Gonen	Reef	8	In the Blink of an Eye	San Diego Jewish Academy	Deveau
568	Hanna	Roman	8	Does Aromatherapy Make Scents to You?	The Children's School	Quincannon
569	Hayek	Quinn	7	It's Music to My Mind	St. Peter the Apostle School	Jones
570	Hecht	Sydney	7	Time Flies: Does Type of Task Distort Perception of Elapsed Time?	Rhoades School	Hunker
571	Hoefer	Lily	7	The Birth Order Affect	Santa Fe Christian School	Culley
572	Householder	Rayann	8	Social Perspectives of Tattoos	Farb Middle	Huntington
573	John	Priyanka	7	How Does Time Perception Change As You Get Older?	Santa Fe Christian School	Culley
574	Kassar	Ethan	7	Does Color Affect Taste	The Children's School	Quincannon
575	King	Natalia	7	Can Art Relieve Stress and Lead to Good Scores on a Test?	St. Michael's School - Poway	Poling
576	Koresaar	Alexandra	7	Curls Through Ballet	Stella Maris Academy	Lillie
577	Lee	Ellie	8	Doodling More Than Meets The Eye	The Children's School	Quincannon
578	Leeman	Noah	8	The Effect of Self-Esteem on Memory	Soille SD Hebrew Day School	Bessler
579	Levy	Ben	8	Fidget Spinners	Soille SD Hebrew Day School	Bessler
580	Lieberman	Grant	8	Give a Smile Back	Soille SD Hebrew Day School	Bessler
581	Lindgren	Emily	7	Color Memory	St. Didacus School	Blickenstaff
582	Link	Morgan	7	Wrap It Up! Investigating the Effects of Age on Responses to Packaging	Rhoades School	Hunker
583	Madrigal	Gabriela	7	Is the Bag Ban Working?	St. Didacus School	Blickenstaff
584	Mamaril	Natalie	7	How Does The Material You Read From Affect Your Reading Rate?	St. Michael's School - Poway	Poling

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Behavioral and Social Sciences (cont)						
585	Martinez	Sofia	7	Do Your Eyes Tell You Lies?	St. Columba School	Lunn
586	Meza	Alexa	8	How Colored Eyes See Colors in Low Light	St. John of the Cross	Krumm
587	Mollner	Alyssa	8	Heredity of Fingerprints	St. John of the Cross	Krumm
588	Moreau	Michelle	8	Who Broke the Vase?	Stella Maris Academy	Lillie
589	Myers	Eitan	8	Will They Cheat	Soille SD Hebrew Day School	Bessler
590	Nguyen	Kassidy	8	Peripheral Vision	St. Didacus School	Blickenstaff
591	Nour	Fatima	8	Which Learning Style Yields Better Memory?	Islamic School of San Diego	Nasereiddin
592	Núñez	Anna	8	You're Stressing Me Out!	Coastal Academy	Biernacki
593	Oakes	Ariston	7	Does Age Affect Your Ability to Delay Gratification	The Children's School	Quincannon
594	Oliveros	Jacelle	8	Self-Learning vs. Being Taught Music	St. Pius X	Doyle
595	Paoletto	Lucia	8	The Blind Builders	St. Michael Acad - San Diego	Okuley
596	Pascua	Jazmine Marie	7	Cold Sensitivity	St. Michael Acad - San Diego	Okuley
597	Picart	Gianna	7	Does Chewing Gum Make You Smarter?	Bonita Vista Middle	Shimasaki
598	Posner	Isabella	8	Music's Effect on 7th & 8th Graders' Reading Comprehension	San Diego Jewish Academy	Deveau
599	Rapp	Jacob	8	Picture This	Grant Middle	Baldwin
600	Rappoport	Abby	8	Multitasking; Brain Drain or Brain Boost	Soille SD Hebrew Day School	Bessler
601	Raz	Naomi	8	Contagious Behavior	Soille SD Hebrew Day School	Bessler
602	Rhee	Luke	8	The Effect of Noise on Concentration	St. Didacus School	Blickenstaff
603	Rooney	David	8	The Influence of Athletes' Assumed Race on Perceptions of Potential Success	The Children's School	Brown
604	Root	James	7	Effects of Video Games on the Body	St. Therese Academy	Peterson
605	Rosado	Abigail	7	The Pressure To Fit In: Testing Conformity in Middle Schoolers	All Hallows Academy	Meza
606	Santos	Aiko	7	Do Warm Colors Affect How You Think?	Sacred Heart - Coronado	Bartlett
607	Savant	Ainsley	7	Magic Juice	St. John School- Encinitas	Heins
608	Schmidt	Revere	7	Rx to React Faster	Santa Fe Christian School	Culley
609	Schmitt	Scarlett	7	Does Object Shape Affect Recall?	Rhoades School	Hunker

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Behavioral and Social Sciences (cont)						
610	Selfani	Joy	8	Eyes	St. Therese Academy	Peterson
611	Silva	Sofia	8	Honesty: How Prevalent is it?	Stella Maris Academy	Lillie
612	Sosa	Mauricio	8	Emotional Cognition in Autism with Virtual	National Univ	Sharif
613	Villalobos	Yvonne	7	Which of These Three Senses (Touch, Taste, and Smell) Recognizes Food Better?	Our Lady of Guadalupe Acad	Patton
614	Webster	Caden	7	How Does Nature Affect the Brain?	St. Michael's School - Poway	Poling
615	Wilson	Eva	7	How do Phones Affect Your Reaction Time?	St. Michael's School - Poway	Poling
616	Wright	Sophia	7	Does Perception of Genders in the Workplace Vary by Age	Nazareth School San Diego	Reed
617	Zanani	Eve	8	Stress Less	Soille SD Hebrew Day School	Bessler
618	Heims	Sidney	7	Blue or Grey	Oak Grove Middle	Zieske
619	Rezvomitch	David	8	Color vs. Shape	Soille SD Hebrew Day School	Bessler

Junior Division -- Biochemistry

620	Abdurrahman	Hasan	8	Are All Fats Bad?	National University Academy	Dillard
621	Al Any	Lana	8	Denaturing Proteins	Carlton Hills Middle	Ducharme
622	Alwazir	Ayat	7	Vitamin D Survival in the Stomach	Islamic School of San Diego	Naserelddin
623	Biese	Paul	8	Organic vs. Conventional	St. Joseph Academy	Bachman
624	Chau	Jesseca	8	Do Fast Food Fries Contain the Same Amount of Fat?	Wangenheim Middle	Mendibles
625	Demarchi	Bianca	7	Avocado Oxidation	St. Therese Academy	Peterson
626	Ehsan	Victoria	7	Fruit Reboot: Reversing Effects of Oxidation in Fruits	Rhoades School	Hunker
627	Figueroa	Lourdes	8	Effect of Height of Blood Deposit on the Resulting Splatter	Grauer School	Young
628	Galon	Talisa	8	How Ocean Acidification Affects Mussel Shells	Wangenheim Middle	Mendibles
629	Ganan	Onessa	8	How does Pure and Processed Fruit Juices Affect Glucose Levels?	Wangenheim Middle	Mendibles
630	Goudy	Miles	8	Vitamin C in Orange Juice Preparations	Mt. Everest Academy	Tran
631	Leshner	Ryan	7	Which Foods Provide the Most Iron?	Grant Middle	Baldwin
632	Orta	Janesa	7	Does Amount of Baking Soda Effect How Cookies Rise	St. Therese Academy	Peterson
633	Ortiz-Calva	Lucia	7	How does Gluten Affect the Taste of Baked Goods?	All Hallows Academy	Meza

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Biochemistry (cont)						
634	Patam	Natalie Rose	8	The Amount of Vitamin C in Oranges	Wangenheim Middle	Mendibles
635	San Pedro	Benjamin	7	Extracting Onion DNA	St. Michael Acad - San Diego	Okuley
636	Telles	Christina	8	Happy Teeth, Happy Life	St. Joseph Academy	Bachman
637	Vu	Kent Jr	7	Extracting DNA: Which One is Longer	St. Columba School	Lunn
638	Ward	Aisling	8	Dominant vs. Recessive Traits: Which One Actually Dominates	St. Didacus School	Blickenstaff
639	Vena	Madelyn	7	Gummy Bear Osmosis	St. Joseph Academy	Hanson

Junior Division -- Chemistry

642	Alwazir	Issa	7	The Study of The Artificial Pancreas	Islamic School of San Diego	Naserelddin
643	Ashurst	Carleigh	8	The Effect of Temperature on the Chemiluminescence of Glow Sticks	Corfman/McCabe School - Imperial County	Claverie
644	Ballesteros	Michelle	7	The Dry Ice Project	Stella Maris Academy	Lillie
645	Costa	Emily	7	Sweet Thing	Santa Fe Christian School	Culley
646	Demoreno	Alessia	7	Which Type of Slime is Starchiest	All Hallows Academy	Meza
647	Ells	Dustin	8	Cleaning Coins	St. John School- Encinitas	Heins
648	Farrell	Catherine	7	Which is the Best Fabric to Dye?	Nazareth School San Diego	Reed
649	Gallego	Diego	8	Which Liquid Rusts Metal the Fastest?	Our Lady of Guadalupe Acad - Imperial County	Patton
650	Gapp	Emily	8	Iron at the Beach?	Classical Conversations	Gapp
651	Guenniche	Liora	8	Toss It or Drink It?	Soille SD Hebrew Day School	Bessler
652	Guillermo	Taylor	8	Which Brand of Water Has the Highest Level of Alkalinity?	Stella Maris Academy	Lillie
653	Hernandez	Isabella	7	Just Ripe!	Sacred Heart - Coronado	Barlett
654	Hernandez	Sofia	8	Homemade Cold Packs Vs. Portable Ice Packs	St. Pius X	Doyle
655	Karaniwan	Alyssa	7	The Connection Between Fabric & Bug Repellent to Repel Bugs	Nazareth School San Diego	Reed
656	King	Valentine	7	Dividere, "to Separate"	Classical Conversations	King

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Chemistry (cont)						
657	Laborin	Ricky	7	Would You Get In?	Sacred Heart Parish School - Coronado	Bartlett
658	Landini	Natasha	8	Sugar in Your Jam	Chula Vista Middle	Saclauso-Caro
659	Lopez	Alysia	8	Paraffin Wax Compared to Soy Wax Which Will Burn Faster?	Chula Vista Middle	Tom
660	Meyers	Brody	7	Which Environmental Factor Causes an Apple to Decompose Fastest?	St. Michael's School - Poway	Poling
661	Mody	Sohini	7	Turn Mud into Energy	St. Columba School	Lunn
662	Moskowitz	Dovid	8	Red vs. Green	Soille SD Hebrew Day School	Bessler
663	Salah	Nadia	8	Which Oil Makes the Best Ferrofluid	Islamic School of San Diego	Alkhawaja
664	Smith	Owen	8	How Do Different Oils Used to Make Soap Effect Hardness?	Correia Middle	Smith
665	Trimble III	Charles	8	Electrolyte Mayhem	St. Joseph Academy	Bachman
666	Urquidez	Naomi	7	Water is Magic!	Corfman/McCabe School-Imperial Co	Leon
667	Venger	Kayla	8	Going Bananas Over Fruit Ripening?	Soille SD Hebrew Day School	Bessler
668	Vidmen	Madge	8	Bath Bombs	Mt. Helix Academy	Cohen
669	Weisz	Leah	8	Cupcakes	Soille SD Hebrew Day School	Bessler
670	Welsh	Sophia	8	The Effect of Bleach, Vinegar, and Acetone on Deteriorating Plastic	Wangenheim Middle	Mendibles
671	Wojcik	Weronika	8	Effects of Oil-Based Substances on Water Resistance	Wangenheim Middle	Mendibles
672	Wright	Eric	8	What Solution Can Slow Apple Browning?	Chula Vista Middle	Fee
673	Zamora	Dafydd	7	The Flammability of Wood	St. Didacus School	Blickenstaff
674	Weissler	Aidin	8	Coatings to Protect Polymers from UV Damage	Soille SD Hebrew Day School	Bessler

Junior Division -- Computer Science

677	Al-Delaimy	Ayoob	8	Early Fire and Gas Detector	Islamic School of San Diego	Naserelddin
678	Allison	Riley	7	What Materials can Block a Wi-Fi Signal	Nazareth School San Diego	Reed
679	Graves	Maximilian	8	Algorithmic Bitcoin Trading: Simple vs. Static	St. Joseph Academy	Bachman
680	Ignatov	Julian	8	Barcodes in a Nutshell	Grauer School	Young

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Computer Science (cont)						
681	Kadous	Hamzah	7	Smart Teen Room	Islamic School of San Diego	Naserelddin
682	Kovarik	Colin	8	Comparing the Efficiency of Popular Pathfinding Algorithms on Random Networks	Rhoades School	Hunker
683	Makris	Davin	8	Amount of Times Cards are Shuffled on Sequence of Cards	Chula Vista Middle	Tom
684	Pabari	Raj	8	SmartBox - System to Provide Wireless Access to Online Educational Resources Without Internet	Coastal Academy	Biernacki
685	Sumpena	Edmund	8	Finger Lift App	Mesa Verde Middle	Bird
686	Geske-Wilson	Dorien	7	How Easily Can You Be Hacked?	Bonita Vista Middle	Shimasaki

Junior Division -- Earth and Planetary Science

689	Blair	Daniel	8	The Affect of Acid Rain on Seedling Germination	St. John of the Cross	Krumm
690	Danowsky	Jake	8	Effects of Soil Type on Permeability and Saturation	Rhoades School	Hunker
691	Dodd	Benjamin	7	Impact of Water Temperature on Tornadoes	St. Mary Star of the Sea	Englund
692	Marrujo	Gabriel	8	Can Soil Stop Erosion	St. Didacus School	Blickenstaff
693	McKamey	Trey	7	Ocean Tides and Salinity	St. Didacus School	Blickenstaff
694	Muroff	Samuel	8	Do Simple Electronics Make a Solar Still More Efficient	San Diego Jewish Academy	Deveau
695	Peterson	Kate	7	Monitoring Erosion at San Diego's North County Beaches	Rhoades School	Hunker
696	Postins	Thalia	8	Does the Type of Fertilizer Have an Effect on Dead Zones	The Children's School	Brown
697	Schmidt	Zara	7	Soiled Soils	St. Gregory the Great School	Ryan
698	Walls	Sammy	8	The Effect of Rock Substance on Weathering and Abrasion	City Tree Christian School	Lee
699	Wilder	Riley	8	Reducing Ocean Acidification Using Algae	The Children's School	Quincannon

Junior Division -- Engineering - Electrical and Mechanical

703	Abdi	Saalim	8	Smart Watering Device	Islamic School of San Diego	Naserelddin
704	Alioto	Sofia	7	Hovercraft: Are They Fast or Slow?	St. Gregory the Great School	Ryan

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Engineering - Electrical and Mechanical (cont)						
705	Bhatkar	Ayaan	7	Wind Turbines	Islamic School of San Diego	Naserelddin
706	Boeh	Andy	7	The Effect of Friction on Shoes	St. Didacus School	Blickenstaff
707	Coy	Eric	8	Ready Set Go	St. Mary School – Escondido	Martinez
708	Dang	Phuoc	8	Traction on Mars	The Children's School	Brown
709	Diaz	Taylor	7	Wood Bats vs. Metal Bats, Which is Better?	St. Mary Star of the Sea	Englund
710	Escudero	Nelson	8	Does the Wire Diameter Affect the Voltage Produced by Electromagnetic Generators?	St. Mary Star of the Sea	Englund
711	Felix	Gabriel	7	To Paint or Not to Paint? The Burning Question	All Hallows Academy	Meza
712	Gadient	Stefan	8	Solar Aquatic Battery (SABA)	The Cambridge School	Gingrich
713	Galib	Ridwan	7	Water Quality Monitoring System	Islamic School of San Diego	Naserelddin
714	Garcia	Christian	8	Holiday Light Circuit	St. John School-Encinitas	Heins
715	Hayasaka	Ian	7	Crystal Radio Circuitry & Reception	Corfman/McCabe School-Imperial Co	Leon
716	Hernandez	Daniel	9	Force with a Side of Potatoes	Gompers Prep Academy	Ullyot
717	Jaber	Bruno	7	Coin Battery	St. Didacus School	Blickenstaff
718	Khan	Mohammad Ibrahim	7	The Service Manager	Islamic School of San Diego	Naserelddin
719	Kuo	Marc	8	Third Eye, A Vision Assist Device for Glaucoma Patients	Muirlands Middle	Kuo
720	Lalangan	Rhea	8	How Resistors Affect the LED in a Circuit	St. John of the Cross	Krumm
721	Lucero	Ramon	7	Panel Performance	St. Gregory the Great School	Ryan
722	Martinez	Alexandra	7	The Effects of Media & Distance on Wi-Fi Signal	Stella Maris Academy	Lillie
723	Piatek	Angeline	8	Robot Race	St. Didacus School	Blickenstaff
724	Sarmiento	Sidney	7	A Future Without Trash	St. Michael's School - Poway	Poling
725	Soliman	Ziyad	8	Map It Right!	Islamic School of San Diego	Naserelddin
726	Suarez	Izallyn	7	Electrical Motor Turns Faster with More Magnets	Barbara Worth Jr - Imperial County	Kappeler
727	Torrance	Estevan	7	What Rocket Fin Makes a Rocket More Efficient	Nazareth School San Diego	Reed
728	Zeng	Michael	8	Exploring Antennas	Bishop's School	Jordan
729	Walstrom	Kylie	8	Fractals on Fire	De Portola Middle	Bridges

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Engineering - Energy and Transport						
732	Abdinasir	Daud	8	Best Solar Tracker	Islamic School of San Diego	Naserelddin
733	Backlin	Ben	8	Testing the Effect of Beeswax on the Boundary Layer	Rhoades School	Hunker
734	Bodenhamer	Tyler	8	Can You Feel the Heat? Designing the Best Solar Air Heater	De Portola Middle School	Bridges
735	Casillas	Itzel	8	Renewable Energy through Photosynthesis: Part II	St. Rose of Lima	Urbiztondo
736	Chine	Jack	7	Evaluating the Electrical Output of a Homemade Microbial Fuel Cell	Rhoades School	Hunker
737	De Los Cobos	Isaak	8	Hydraulic System Shovel Excavator Engineering	St. Rose of Lima	Urbiztondo
738	Flores	Jheren	7	What is the Effect of Water Pressure on Hydroelectricity Output?	St. Michael Acad - San Diego	Okuley
739	Ghannadian	Samira	8	The Effect of Different Liquids on the Flight of a Bottle Rocket	St. Therese Academy	Peterson
740	Guerrero	Santiago	8	Solar vs Hydro	Sacred Heart - Coronado	Bartlett
741	Kansas	Audrey	8	Be Bright, Choose Light: Solar Panel Efficiency	Carlton Hills Middle	Ducharme
742	Kennedy	Ryan	7	Back to the Past	Sacred Heart - Coronado	Bartlett
743	McKeeman	Aaron	8	SwellSpark Turns Ocean Swells Into Electric Energy	Coastal Academy	Biernacki
744	Ngo	Patrick	8	An Alternative Choice for Alternative Energy	Marshall Middle	Gillum
745	Noury	Marisa	7	How Does a Bat Impact the Exit Speed of a Softball?	Nazareth School San Diego	Reed
746	O'Leary	Patrick	7	How Does Hard Soiling Affect the Output of a Solar Module	St. Gregory the Great School	Ryan
747	Pham	Leah	8	Go with the Flow	Good Shepherd Catholic School	McNeil
748	Pham	Shaun	7	Solar Panel Angles for Maximum Energy	St. Didacus School	Blickenstaff
749	Rios	Lorenzo	8	Citrusy Energy	Harriett Tubman Village Charter	West
750	Sadr	Kourosh	7	The Watermill	The Children's School	Quincannon
751	Scanlon	Ethan	7	Solar Cells Versus Extreme Temperatures	St. Gregory the Great School	Ryan
752	Scurry	Blake	8	A Unique Spin on Aerodynamics: Airfoil augmented with semi-auto rotating leading edge	Marshall Middle	Gillum
753	Shen	Christina	7	Roller Coaster Energy	St. Didacus School	Blickenstaff
754	Shimizu	Pablo-Ichiro	8	The Power of The Sun Will Make The Solar Car Run	Bonita Vista Middle	Shimasaki
755	Visk	Kenneth	7	Optimal Conditions for a Water Wheel	St. Michael's School - Poway	Poling
756	Wichman	Andre	8	Water Purification Plant	Sacred Heart - Coronado	Twomey
757	Dilan	Armando	8	Trebuchet Arm Length vs Counter Mass Weight	Chula Vista Middle	Fee

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Engineering - Materials and Bioengineering						
761	Baccay	Neil	8	Building Green (Using Recyclable Materials as Concrete Reinforcements)	St. Michael Acad - San Diego	Okuley
762	Baldeaux	Gabrielle	8	What are the Effects of Design on Bridge Strength?	St. Therese Academy	Peterson
763	Banco	Israel	8	The Effect of Materials on Soundproofing	Wangenheim Middle	Mendibles
764	Caspers	Peyton	8	Engineering a Better Skateboard	The Children's School	Quincannon
765	Castiglione	Elea	8	Green Roofs - Does Having Plants on Roofs Affect Internal Conditions?	Grant Middle	Baldwin
766	Cullum	Elizabeth	8	Hurricane Proof House	Coastal Academy	Biernacki
767	Foss	Zachary	7	Does the Substrate Affect the Temperature of Artificial Turf	Nazareth School San Diego	Reed
768	Goldman	Max	7	Ultimate Pinwheel	Stella Maris Academy	Lillie
769	Hidalgo	Jose Martin	8	What is the Best Thermal Insulator	Our Lady of Guadalupe Acad	Patton
770	Machado	Brianna	7	Hybrid Concrete	St. Rose of Lima School	Urbiztondo
771	Moore	Morgan	8	The Effect of Thermal Exposure on the Elasticity of Rubber	De Portola Middle	Bridges
772	Moran	Aiden	8	Biodegrading Trash Bags	St. Didacus School	Blickenstaff
773	Morsi	Nadeen	8	The Smaller It Goes, the Purer It Shows	Islamic School of SD	Naserelddin
774	Naughton	Sasha	7	How Does the Fin Design of a Rocket Affect How it Flies	St. Mary Star of the Sea	Englund
775	Pajimola	Jacob	7	Biodegradable Plastics	St. Didacus School	Blickenstaff
776	Quinto	Z. Harrison	7	Bernz-O-Metal	St. Gregory the Great School	Ryan
777	Randhawa	Waleed	8	Artificial Pancreas: An Automatic Insulin Delivery System	Marshall Middle	Gillum
778	Reyes	Isaac	8	The Effect of Bridge Type on Weight Resistance	City Tree Christian School	Lee
779	Warner	Garrett	8	Effects of Base Isolators on Building Stability	Rhoades School	Hunker
780	Rasch	Katelyn	8	The Sound of Silence	De Portola Middle	Bridges
781	Segura	Enoch	7	Metal Armor is Overrated	Oak Grove Middle	Gale

Junior Division -- Environmental Sciences and Management

783	Aguirre	Andres	8	Is Plastic in the Environment Harmful to Plant Growth or Fish Survival?	St. John of the Cross	Krumm
784	Barjesteh	Leila	7	The Effects of Sunscreen and Sunblock on Plants	St. John School-Encinitas	Heins
785	Becker	Blake	7	Is It Safe To Swim Near An Inlet?	St. John School-Encinitas	Heins

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Environmental Sciences and Management (cont)						
786	Brechtel	Luke	8	Comparing Toxicity of Gardening Chemicals on Daphnia magna	Stella Maris Academy	Lillie
787	Camacho	Karla	8	Lead in San Diego County Water?	Chula Vista Middle	Tom
788	De La Fuente	Gustavo	7	Are These Beaches Affected by Bacteria?	All Hallows Academy	Meza
789	Drab	Andres	8	How Clean Is Your Water?	St. Didacus School	Blickenstaff
790	Estudillo	Adela	7	Water Purification	St. Didacus School	Blickenstaff
791	Finlay	Lily	7	Monitoring Water Quality and Bird Populations At Fairbanks Lake	Rhoades School	Hunker
792	Garcia	Gizelle	8	Blue Water, Sand, and Trash	Chula Vista Middle	Saclauso-Caro
793	Gazmen	Mikayla	7	Greenhouse Plant Growth	St. Didacus School	Blickenstaff
794	Gerlach	Daniel	8	Impact of Traffic on Particulate Levels in Open Space	Rhoades School	Hunker
795	Hansen	Amanda	8	Cleaner Water? Are Oysters the Answer?	St. John School-Encinitas	Heins
796	Hansen	Olivia	8	Urban Runoff: Is 72 Hours Enough?	St. John School-Encinitas	Heins
797	Horn	Ilan	8	TIDE	Soille SD Hebrew Day School	Bessler
798	Johnson	Lorena	7	Comparing Soil Permeability	St. Didacus School	Blickenstaff
799	Kapoor	Ishan	7	Effect of Strength of Electromagnet on Ferrous Metals On-site Recycling	Oak Valley Middle	Kapoor
800	Lawyer	Olivia	8	Save the Strawberries	Chula Vista Middle	Tom
801	Malveda	Stephanie	7	Trash to Gas	St. Didacus School	Blickenstaff
802	Martinez	Talisa	8	Testing Water Quality through Daphnia Magna Survival Rate	Corfman/McCabe School-Imperial Co	Claverie
803	Paul	Mia	8	Green Roofs	St. Joseph Academy	Bachman
804	Reinig	Jack	7	How Does the STA Water Compare to the Quality of Filtered Water?	St. Therese Academy	Peterson
805	Schneider	Collin	8	Documenting Impacts of the Desalination Plant on Water Quality at Agua Hedionda	Rhoades School	Hunker
806	Severinghaus	Alexander	7	Evidence of Increased Photosynthesis: Comparing Ratios of Oxygen Isotopes	Rhoades School	Hunker
807	Shim	Kyubo	8	Turn Mud into Electricity	St. Didacus School	Blickenstaff
808	Smith	Akayah	8	The Effect of Wind Speed on Temperature Loss From an Object	City Tree Christian School	Lee
809	Streitman	Scarlett	7	Correlation of Local Populations to Ozone Levels in Southern California	Rhoades School	Hunker

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Junior Division -- Environmental Sciences and Management (cont)						
810	Velazquez	Nayeli	8	Water Desalination	Grant Middle	Baldwin
811	White	Delaney	8	Alumimun Cans Effect in Different Types of Water	St. John School-Encinitas	Heins
812	Williams	Maya	7	Detecting Microplastic Pollution in Local Waters	Rhoades School	Hunker
813	Worman	Caroline	7	Analyzing Escondido Creek Water Quality	Rhoades School	Hunker
814	Gray	Mason	7	The Tides Have Turned: Salinity in the San Diego Estuary	Grant Middle	Baldwin
815	Tyler	Jasmim	7	What's in Your School Drinking Water	St. Columba	Lunn

Junior Division -- Mathematical Sciences

817	Cu	Mark	8	The Hunt for Quadratics	St. Rose of Lima School	Urbiztondo
818	Fowler	Lou	8	Hard- Weinberg Equations Calculator	The Children's School	Brown
819	Lopatka	Julia	7	Optimizing Special Effects in Cinematography Using Forces Perspective Optics	Bernardo Heights Middle	Lopatka
820	Quitoriano	Jonathan	7	Are you Using the Right Shuffle?	Grant Middle	Baldwin
821	Schatz	Aiden	7	Rubik's Cube Solve Times	St. Therese Academy	Peterson

Junior Division -- Medicine and Health Sciences

825	Alfaro	Margarita	7	Is There Lead in Fidget Spinners	Nazareth School San Diego	Reed
826	Arroyo	Victoria	8	Sugar in Bananas	St. Didacus School	Blickenstaff
827	Belbese	Haya	7	The Road to the Cure of Alzheimer's	Islamic School of San Diego	Nasereiddin
828	Benavente	Christina	7	Breakfast Test	St. Didacus School	Blickenstaff
829	Biese	Therese	7	Are Microwaves Safe?	St. Joseph Academy	Hanson
830	Cohen	Yehoshua	8	Reaction Times	Soille SD Hebrew Day School	Bessler
831	Copeland	Kylie	7	The Effects of Temperature on Vitamin C Content Over Time	Rhoades School	Hunker
832	Correll	Cyrus	7	Investigating Lead Levels in Common Household Products	Rhoades School	Hunker
833	Dela Rosa	Patrick	8	Artificial Light Affects Health?	National City Middle	Smith

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Junior Division -- Medicine and Health Sciences (cont)						
834	Deneen	Kendal	7	Sleeping Beauty	St. John School-Encinitas	Heins
835	Fudge	Sophia	8	Infection Control	St. Didacus School	Blickenstaff
836	Goldwasser	Natalie	8	The Truths Behind Processed Foods	San Diego Jewish Academy	Deveau
837	Kuang	Andrew	8	A Study of Ointment-Based Asthma Treatment	Carmel Valley Middle	Kuang
838	Lerner	Eli	8	Testing the Best Way to Fall Asleep	San Diego Jewish Academy	Deveau
839	Mahjouri	Samuel	8	Correlation of Type A Personality to Multiple Sclerosis and Gene Expression	Rhoades School	Hunker
840	Maya	Anna	8	Sleep's Effect on Exercise	Soille SD Hebrew Day School	Bessler
841	Megow	Amelia	8	The Effect of UV Light and Vitamin C on Absorption of Tea	City Tree Christian School	Lee
842	Meyers	Cynthia	8	Does Eye Color Affect Eye Sight	St. John School-Encinitas	Heins
843	Murali	Rohan	7	Functional Orthotic Materials: Force Reduction During Impacts	Nazareth School San Diego	Reed
844	Neufeld	Lexa	7	Can you affect your breath?	Santa Fe Christian School	Culley
845	Nguyen	Lisa	7	How do Foods Affect Our Daily Performance	St. Francis of Assisi	Fantano
846	Noriega	Kristen	7	Which Beverage Decays Teeth The Most?	Our Lady of Guadalupe Acad-Imperial County	Patton
847	Palti	Yael	8	Sleep to Remember	Soille San Diego Hebrew Day School	Bessler
848	Raghavendra	Rachana	8	Perception of Sound Frequency Ability and the Impact of Region and Age	Marshall Middle	Gillum
849	Rezmovitch	Jordan	8	A Dentist's Nightmare	Soille SD Hebrew Day School	Bessler
850	Rodriguez	Thalia	8	Sweet as Sugar: Comparing the Sweetness of Sugar vs. Sugar Substitutes	St. Francis of Assisi	Fantano
851	Ross	Annabella	7	Coordination Conundrum	St. Peter the Apostle School	Jones
852	Schneider	Dominic	7	It's Never to Late!	National Univ	Sharif
853	Shrestha	Sneha	7	Can Herbs Help Lower Blood Pressure?	Harriett Tubman Village Charter	West
854	Tabuena	Althea	7	Music's Effect on Resting Heart Rate	St. Michael's School - Poway	Poling
855	Telfer	Caryn	8	Testing EMF Emissions from Cell Phones During Charging	Rhoades School	Hunker
856	Thacker	Elizabeth	7	Effectiveness of Silver Ion Antimicrobial Fabric in Hand-Drying Methods	Rhoades School	Hunker
857	West	Xavier	8	Virtual Reality: Stimulating the Brain	Harriett Tubman Village Charter	West

64th Annual Greater San Diego Science & Engineering Fair - 2018

Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Medicine and Health Sciences (cont)						
858	Zucker-Abudi	Gil	8	How Heat Affects Your Active Heart Rate	San Diego Jewish Academy	Deveau
859	Glassford	Katie Jane	7	Burning Calories	St. Gregory the Great School	Ryan
860	Aizin	Kate	8	Athletic Heart vs. Normal Heart	San Diego Jewish Academy	Deveau

Junior Division -- Microbiology

862	Alkhawaja	Ro'aa	8	Got Resistant Bacteria? Have No Fear, the Herbs are Here!	Islamic School of San Diego	Alkhawaja
863	Choi	Narnia	8	Killing Bacteria on our Smartphones	Coastal Academy	Biernacki
864	Dimes	Jude	7	Is Your Honey Real?	Islamic School of San Diego	Alkhawaja
865	Doliente	Kaylee	8	How Depth of Lake Miramar Affects Number of Microorganisms	Wangenheim Middle	Mendibles
866	Dujowich	Eli	8	Bacteria vs. Diffuser	Soille SD Hebrew Day School	Bessler
867	Eiseman	Gregory	8	Removing Bacteria With Gum	Soille SD Hebrew Day School	Bessler
868	Goswami	Marissa	8	Using Next-Gen Sequencing to Compare Levels of Bacteria in Bagged Salads	Rhoades School	Hunker
869	Hirst	Isabella	8	Buyer Beware: Comparison of Bacterial Contamination in Department vs. Discount Store Clothing	Rhoades School	Hunker
870	Hoagland	Sean	7	Algae: Balance Between Good and Evil	St. Gregory the Great School	Ryan
871	Kelly	Liam	7	How Mold Affects Bread Under Different Circumstances	St. Columba School	Lunn
872	Lalangan	Nicole	8	Growth of Bacteria	St. John of the Cross	Krumm
873	Lauria	Josie	7	The Effect of Spices on Bacterial Growth	St. Didacus School	Blickenstaff
874	Le	Thu	8	Will Probiotics Affect Bacterial Growth?	The Children's School	Quincannon
875	Lovberg	Inessa	8	Spices' Ability To Grow Bacteria Cultures	St. Didacus School	Blickenstaff
876	Malone	Shala	8	Will It Glow?	Carlton Hills Middle	Ducharme
877	McElfresh	Jakob	8	How Much Bacteria is on Your Water Bottle	Soille SD Hebrew Day School	Bessler
878	Mecono	Melody	8	How do Different Colored Lights Affect the Distance Pilobolus Shoots Its Spores?	Wangenheim Middle	Mendibles
879	Menon	Lakshmi	7	Effects of Ultraviolet Light on Bacteria Mortality: Bacillus subtilis vs. Micrococcus luteus	Rhoades School	Hunker
880	Muradagha	Nada	8	Does Radiation Affect Living Organisms?	Islamic School of San Diego	Nasereldin
881	NarayanaMurthy	Adhithi	8	Antibiotics Vs. Nanoparticles: A Year 2 Study	Marshall Middle	Gillum
882	Obispo	Zachary	7	Does The Five Second Rule Affect Your Food?	St. Michael Acad - San Diego	Okuley

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Microbiology (cont)						
883	Pariset	Olivia	7	The Effect of Disinfectant and Cleaning Materials on Bacteria Growth	City Tree Christian School	Lee
884	Pate	Bethani	8	Comparing Antibacterial Properties of Fresh Garlic, Garlic Oil and Garlic Powder	Rhoades School	Hunker
885	Peikes	Avraham	8	Antibacterial vs Regular Soap	Soille SD Hebrew Day School	Bessler
886	Peña	Carina	8	Do Cosmetics Affect the Amount of Bacteria on Phones	Chula Vista Middle	Fee
887	Polanco	Cielo	7	Subscription To Infection	St. Rose of Lima School	Urbiztondo
888	Ramirez-Ortega	Yaretsi	7	The Microbial Fuel Cell	Eastlake Middle	Kennerly
889	Reinig	George	7	Algae in Our School Gutters	St. Therese Academy	Peterson
890	Renas	Caroline	8	The Effect Sweeteners Have on the Symbiotic Culture of Bacteria and Yeast	Grant Middle	Baldwin
891	Reyes	Juan	8	Testing the Antimicrobial Effects of Cinnamon and Salt	Stella Maris Academy	Brett
892	Rodriguez	Sheyla	8	The 5 Second Rule and Bacteria Transfer	Chula Vista Middle	Fee
893	Ruppert	Joy	7	Cottonwood Creek Contamination: Investigating Water Quality of Moonlight Beach Effluent	Rhoades School	Hunker
894	Shaw	Hailey	7	The Effect of UV Light on Bacteria	St. Gregory the Great School	Ryan
895	Soe	Priyanka	7	Comparing Levels of Coliform Bacteria in Raw, Pasteurized and UHT Milk Products	Rhoades School	Hunker
896	Sue	Julianne	8	Breathtaking Bioluminescence	De Portola Middle	Bridges
897	Towne	Isabella	8	Which Yogurt Contains the Best Probiotics?	St. John School-Encinitas	Heins
898	Williams	Lindsey	8	The Effect of Antibacterial Soap Brand on Bacterial Life Decrease	The Children's School	Brown
899	Youhanna	John	8	Death Rays	Carlton Hills Middle	Ducharme
900	Rodriguez	Carlos	7	Five Second Rule	Bonita Vista Middle	Shimasaki

Junior Division -- Physics and Astronomy

903	Alexander	William	7	Which Asics shoe will have the most grip?	St. Gregory the Great School	Ryan
904	Almeda	Athena	8	Frequency + Sand = Geometrical Shapes?	National City Middle	Smith
905	Apsay	Gabrielle	7	How Water Depth Affects Wave Velocity	Bonita Vista Middle	Shimasaki
906	Bocalan	Donovin	7	What is the Magnetic Field of a Cell Phone in Use?	St. Pius X	Doyle
907	Bond	Will	7	The Physics of Shooting a Basketball	St. Gregory the Great School	Ryan

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Physics and Astronomy (cont)						
908	Byrnes	Aidan	8	Creating Aerodynamic Devices To Eliminate Bird Strike Impacts on Aircraft Engines	Rhoades School	Hunker
909	Colmenares	Nathan Isaac	8	Will the Strength of a Magnet be Affected by Temperatures?	Chula Vista Middle	Tom
910	Corpuz	Marianne	8	Changing Winds: Studying Bernoulli's Principle	St. Michael Acad - San Diego	Okuley
911	Derderian	Adrian	8	Probing Photons with Polarizers, Counting them with Cosines	Escondido Christian School	DeLucia
912	Do	Christopher	7	Exploring a Novel Application of Ferrofluid for Structural Stability	Rhoades School	Hunker
913	Estrella	Andre	7	Can a Ball Filled with Helium Travel Further than a Ball with Just Air?	Our Lady of Guadalupe Acad-Imperial County	Patton
914	Gonzalez	Luis Carlos	7	Magnetic Shielding	Our Lady of Mt. Carmel School	Pereyra
915	Gutierrez	Andres	8	The Currency's Current	Chula Vista Middle	Saclauso-Caro
916	Hayeri	Zohal	7	Refraction of Light	National University Academy	Dillard
917	Henry	Sadie	7	Water Resistance in Swim Caps	St. Didacus School	Blickenstaff
918	Humber	Emmy	7	How High Can I Go?	St. Michael's School - Poway	Poling
919	King	Joseph	8	Radiant Energy Gets this Radiometer Running	Classical Conversations	King
920	Klimsak	John	8	How High Can My Rocket Fly?	St. Pius X	Doyle
921	Korn	Jeffrey	7	How Temperature Affects the Bounce of a Golf Ball	St. Gregory the Great School	Ryan
922	Langford	Luke	7	Does a Corked Bat Really Help You Hit the ball Farther?	St. Michael's School - Poway	Poling
923	Lawrenz	Zach	7	Baseball Bats Weight Versus Distance	St. Gregory the Great School	Ryan
924	Leyton	Andrew	8	A Study of Acoustic Foam Transmission Properties	De Portola Middle	Bridges
925	Marquez	Axel	8	Winglet Angles and Wind Tunnel Performance	National City Middle	Smith
926	Mayville	Caleb	7	Bombs Away	Carlton Hills Middle	Ducharme
927	McCabe	Abigail (Abby)	7	Penny Drop	St. Michael's School - Poway	Poling
928	Mccormick	William	8	Evaluating the Effectiveness of Various Materials in Shielding EMF Emissions	Rhoades School	Hunker
929	McCoy	Alexander	8	Deflategate	St. Michael Acad - San Diego	Okuley
930	McWilliams	Jessica	7	Optimal Ballista Launch Angle	Marshall Middle	Baker
931	Orsborn	Clash	8	Does Physics Support Deflategate?	The Children's School	Brown
932	Paye	Pierre	7	Helium Filled Lightweight Soccer Balls	St. Michael's School - Poway	Poling

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Physics and Astronomy (cont)						
933	Riodique	Angelo	8	Electromagnetism	St. Michael Acad - San Diego	Okuley
934	Ross	Brayden	7	Use the Force: The Effects of Magnetism on Linear Acceleration	Carlton Hills Middle	Ducharme
935	Suri	Arjun	7	Measuring Pin Drop Silence	Marshall Middle	Gillum
936	Thompson	Bobby	7	The Effect of Applying Zinc Nails and Copper to Produce Making Batteries	City Tree Christian School	Lee
937	Bustria	Victoria	7	Fastest Way to Cool a Soda	St. Columba School	Lunn
938	Bernardo	Kaitlyn	8	Sound Waves	Bonita Vista Middle	Abundes
939	Schiele	Cyan	7	Splat! Where Did That Blood Come From?	Bonita Vista Middle	Abundes

Junior Division -- Plant Sciences

940	Agonoy	Victoria	7	Plants: Hydroponics or Soil	St. Michael Acad - San Diego	Okuley
941	Balatbat	Sarah Claire	8	The Effect of pH in Lime and Orange Juice's Bacterial Inhibition	Chula Vista Middle	Fee
942	Brown	Shea	8	Best Light for Onion Growth	St. John School- Encinitas	Heins
943	Caceres	J-Robert	7	Aquaponics versus Plants Grown in Soil	St. Pius X	Doyle
944	Castronovo	Thomas	7	Which Fertilizer Helps Grass Grow the Fastest?	All Hallows Academy	Meza
945	Cayabyab	Joann	8	Vitamin C in Valencia Oranges During Summer and Fall	St. Didacus School	Blickenstaff
946	Chakamian	Kian	7	Correlating Olive Quick Decline Syndrome Infections to the Presence of Sharpshooters	Rhoades School	Hunker
947	Chaudhari	Khushi	8	The Effect of Greenhouse Gases on Plants	Marshall Middle	Gillum
948	Clay	Mara	8	Compost Vs. Fertilizer	Mt. Helix Academy	Cohen
949	Drab	Danica	7	Cut Flowers	St. Didacus School	Blickenstaff
950	Fritz	Kara	8	Investigating the Feasibility of Captured Run-off Water for Agricultural Use	Rhoades School	Hunker
951	Fung	Pascale	7	Comparing Plant Populations in Restored vs. Disturbed Areas at San Elijo Lagoon	Rhoades School	Hunker
952	Garcia	Lannah	7	The Effect of Acid Rain on Seedling Germination	Bonita Vista Middle	Shimasaki
953	Guinn	Mallory	7	Fresh Avocados	Carlton Hills Middle	Ducharme
954	Gutierrez	Andrea	8	The Affect of Tea Bags on Mung Bean Plants	Chula Vista Middle	Tom
955	Gutierrez	Andrea	8	Fishy Veggies!	St. Mary's School - El Centro	Teran
956	Jackson	Annelise	8	Greywater's Impact on Grass Growth	St. Mary Star of the Sea	Englund
957	Lombardi	Gianni	7	Plants VS Radiation	Santa Fe Christian School	Culley
958	Luzi	Nick	8	Do Plants Prefer Pee or Compost Tea?	St. Joseph Academy	Bachman

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Plant Sciences (cont)						
959	Manalo	Sophia	7	The pH Plant Preference	St. Rose of Lima School	Urbiztondo
960	Martinez	Diego	8	Chicken Manure on Phaseolus Vulgaris	Chula Vista Middle	Fee
961	Miller	Oriana	7	Chem vs Org Plant Fertilizers	Nazareth School San Diego	Reed
962	Mireles	Kassandra	8	The Amount of Water Plants Receive and Its Effects on Soil Retention	Chula Vista Middle	Tom
963	Occhialini	Stella	8	Plants Phototropic Response to Colored Light	St. Didacus School	Blickenstaff
964	Orozco	Javier	7	Can You Decrease the Time of Germination of Pea Pods	Nazareth School San Diego	Reed
965	Ostermann	Nathan	7	Hydroponic Techniques vs. Soil Growing: Who Triumphs?	Wilson Junior High	Shiffer
966	Pajimola	Joshua	8	Poisonous Water	St. Didacus School	Blickenstaff
967	Post	Isabel	7	The Effect of Fertilizer and Substances on Plant Growth	City Tree Christian School	Lee
968	Potter	Claire	7	The Effect of Medicine on Plants	St. Didacus School	Blickenstaff
969	Quintero	Amy	8	Can Plants Stop Soil Erosion	Corfman/McCabe School-Imperial Co	Claverie
970	Rasmussen	Jake	7	What Type of Beef Fertilizer Works the Best?	All Hallows Academy	Meza
971	Renda	Nina	7	Grapes -the Bigger, the Sweeter?	St. Didacus School	Blickenstaff
972	Rock	David	8	The Effects of CO2 Levels on Mung Bean Plants	Soille SD Hebrew Day School	Bessler
973	Rodgers	Mason	8	The Effects of the Amount of Pollutants in the New River on the Growth Rate of Wheat	Corfman/McCabe School-Imperial Co	Claverie
974	Ruddle	Jamie	7	Hydroponics vs Soil	St. John School-Encinitas	Heins
975	Shim	Minbo	8	Do Plants Grow Better with Sunlight or Artificial Light?	St. Didacus School	Blickenstaff
976	Sohn	Anna	8	The Effect of Heat on Bean Plant Growth	The Children's School	Brown
977	Taitano	Parker	7	Old School vs. New School: A project on Hydroponics	St. Peter the Apostle School	Jones
978	Torres	Mateo	8	Oxigone	St. Peter the Apostle School	Bradford
979	Trojanowski	Oliver	7	Aquaponic vs. Traditional Agriculture	St. John School-Encinitas	Heins
980	Vasquez	Izabella	8	Do Apple Peels Help Mung Bean Plants Grow Taller?	Chula Vista Middle	Tom
981	Vo	Angelique	7	Propagating Succulents: Winter	St. Columba School	Lunn
982	Watts	Maggie	8	Aquaponics vs. Hydroponics: Replacing Commercial Fertilizers with Fish Waste	Rhoades School	Hunker

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division -- Plant Sciences (cont)						
983	Yang	Eric	7	Investigating Salt Tolerance of Western Plant Species	Rhoades School	Hunker
984	Zdanowski	Jack	7	Analyzing Patterns of Seed Distribution by Drone Delivery	Rhoades School	Hunker
Junior Division ONLY -- Product Testing/Consumer Sciences						
988	Acks	Gabrielle	8	Conductivity of EKG Electrodes	San Diego Jewish Academy	Deveau
989	Alfonso	Ryan Michael	8	The Blue Light Effect	St. Rose of Lima School	Urbiztondo
990	Aloboudi	Hope	7	Battle of the Bottles	Stella Maris Academy	Lillie
991	Alwazir	Solaiman	7	The Effect of Energy Drinks on the Heart	Islamic School of San Diego	Naserelddin
992	Anderson	Eliza	8	Pesky Termites!	St. Didacus School	Blickenstaff
993	Chin	Matthew	7	Got Germs? What is the Best Hand Cleaner Brand?	St. Therese Academy	Peterson
994	Dhamim	Noorah	7	The Eco-Cleanser	Islamic School of San Diego	Naserelddin
995	Hagan	Grace	7	Does Using Fidget Devices Reduce Test Anxiety?	Rhoades School	Hunker
996	Hammad	Tasneem	8	Invertase Effect on Sucrose	Islamic School of San Diego	Naserelddin
997	Houk	Michael	8	Game On: Exploring Treatment Methods to Improve Mesh Performance	Rhoades School	Hunker
998	Lickert	Sabrina	7	What Absorbs Most Facial Oil?	Nazareth School San Diego	Reed
999	Liu	Rebecca	7	Which Gender Has the Stronger Taste of Sweetness	All Hallows Academy	Meza
1000	Longenecker	Andrea	7	Which Ice Cream Method Is More Popular	All Hallows Academy	Meza
1001	Master-Castaneda	Gabriel	8	The Effectiveness of Soundproofing Materials	St. Didacus School	Blickenstaff
1002	Murshid	Zunairah	7	Superior Antioxidant?	Islamic School of San Diego	Naserelddin
1003	Navarro	Dahlia	7	Can Sugar Substituter Ferment Yeast?	Bonita Vista Middle	Shimasaki
1004	Omran	Elina	8	Salon Shampoo Vs. Normal Shampoo	Islamic School of San Diego	Naserelddin
1005	Osman	Shukriya	7	ShUt AcNe OFF	Islamic School of San Diego	Naserelddin
1006	Rome	William	7	Better For Longer: Keep Bananas Tasty	All Hallows Academy	Meza
1007	Soberon	Monica	8	"Child-proof" Medicine Caps	Sacred Heart Parish School - Coronado	Bartlett

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Bth #	Last Name	First Name	Gr	Project Title	School	Advisor
Junior Division ONLY -- Product Testing/Consumer Sciences (cont)						
1008	Stermon	Caroline	8	The Power of Music: The Effect of Music Vibration on Oobleck Movement	City Tree Christian School	Lee
1009	Strack	William	8	How Safe Is Your Spinach?	Stella Maris Academy	Lillie
1010	Toliver	Isabella	7	Comparing the Effectiveness of Lotion Based on Label and Cost	St. Joseph Academy	Hanson
1011	Toscano	Nicholas	8	Childproof Lids. Do They Work ?	St. Didacus School	Blickenstaff
1012	Ali	Ibrahim	8	The Best Natural Material for Heat Insulation	Islamic School of San Diego	Nasereiddin
1013	Vickers	Kailea	7	How Child Proof are Childproof Bottles?	Bonita Vista Middle	Shimasaki
1014	Viray	Nerissa Mae	8	"A Tale of Two Sodas: A Drink or a Cleaner?"	Chula Vista Middle	Saclauso-Caro
1015	Wieczorek	Brianne	8	Are All SPF 50 Sunscreens the Same?	Stella Maris Academy	Lillie

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2018 Teacher/Advisor Directory

The Board of Directors and Management Committee would like to thank the following teachers/advisors of San Diego and Imperial Counties for their commitment to and support of students and their research in science, technology, engineering and math in the Greater San Diego Science and Engineering Fair.

IMPERIAL COUNTY SCHOOLS

Senior Division:

Rueda, Dr. Lourdes - Central Union HS

Junior Division:

Kappeler, Heidi - Barbara Worth Jr. High
Claverie, Lindsay - Corfman/McCabe
Leon, Isaac - Corfman/McCabe School
Shiffer, Terri - Wilson Junior High School

IMPERIAL COUNTY – PRIVATE SCHOOLS

Junior Division:

Patton, Joshua - Our Lady of Guadalupe
Teran, Cecilia - St. Mary's School

SAN DIEGO COUNTY PRIVATE SCHOOLS

Senior Division:

Lopatka, Jeanette - Cathedral Catholic HS
Pena, Stephanie - Cathedral Catholic HS
Rafie, Marjan - Cathedral Catholic HS
Hanscom, Rose - Francis Parker School
Wimpey, Kim - Francis Parker School
Naserelddin, Najwan - Islamic School of SD
Padgett, Dan - La Jolla Country Day School
Negus, Norm - Mt. Everest Academy HS
Pachon, Rebecca - Mt. Everest Acad HS
Mudaliar, Rajshree - Pacific Ridge
Hanson, Ryan - St. Joseph Academy

Junior Division:

Meza, Jennifer- All Hallows Academy
Jordan, Jim - Bishop's School
Lee, Michelle - City Tree Christian School
Gapp, Erica - Classical Conversations
King, Shannon - Classical Conversations
Shlemon, Jennifer - Classical Conversations
Biernacki, Bridget - Coastal Academy
DeLucia, Deborah - Escondido Christian
McNeil, Mary Anne - Good Shepherd Cath
Young, Patricia - Grauer School
Sharif, Fardusa – Independent, Nat Univ
Alkhawaja, Arwa - Islamic School of SD
Naserelddin, Najwan - Islamic School of SD
Tran, Huy - Mt. Everest Academy
Cohen, Suneeta - Mt. Helix Academy

SAN DIEGO COUNTY PRIVATE SCHOOLS (cont)

Junior Division cont.

Cohen, Suneeta - Mt. Helix Academy
Dillard, Garry - National University Acad
Reed, Maarlyn - Nazareth School SD
Kapoor, Sabby - Oak Valley Middle School
Pereyra, Juanita - Our Lady of Mt. Carmel
Hunker, Roxanne - Rhoades School
Barlett, Marlene - Sacred Heart Coronado
Twomey, Bartlett - Sacred Heart Coronado
Deveau, Lily - San Diego Jewish Academy
Culley, Debbie - Santa Fe Christian School
Bessler, Matt - Soille SD Hebrew Day
Lunn, Tracy - St. Columba School
Blickenstaff, Rita - St. Didacus School
Fantano, Theodore - St. Francis of Assisi
Ryan, Mary - St. Gregory the Great School
Krumm, Greg - St. John of the Cross
Heins, Gena - St. John School- Encinitas
Bachman, Sarah - St. Joseph Academy
Martinez, Claudia - St. Mary Sch Escondido
Englund, Stephanie - St. Mary Star of Sea
Okuley, Aaron - St. Michael Academy - SD
Poling, June - St. Michael's School - Poway
Bradford, Marnie - St. Peter the Apostle
Jones, Frances - St. Peter the Apostle
Doyle, Rachel - St. Pius X
Urbiztondo, Evelyn - St. Rose of Lima
Peterson, Lauren - St. Therese Academy
Lillie, Brett - Stella Maris Academy
Gingrich, Melissa - The Cambridge School
Brown, Tina - The Children's School
Quincannon, Diana - The Children's School

SAN DIEGO COUNTY SCHOOLS

Senior Division

Mardahl, Michelle - Bonita Vista HS
Haas, Ariel - Canyon Crest Academy
Bayley, Cheryl - Eastlake HS
Claudio, Tony - Olympian HS
More, Lynn - Olympian HS
Terrill, Robert - San Marcos HS
Sandoval, Sofia - Sweetwater HS
Halander, Scott - Westview HS
Ingram, My-Nga - Westview HS

SAN DIEGO COUNTY SCHOOLS (cont)

Junior Division

Carmichael, David - Bernardo Heights MS
Abundes, Lia - Bonita Vista Middle School
Shimasaki, Cynthia - Bonita Vista Middle
Ducharme, Kathryn - Carlton Hills Middle
Kuang, Ken - Carmel Valley Middle School
Fee, Jennifer - Chula Vista Middle School
Saclauso-Caro, Gina - Chula Vista Middle
Tom, Tina - Chula Vista Middle School
Kennerly, David - Eastlake Middle School
Bird, Russ - Mesa Verde Middle School
Smith, Ryan - National City Middle School

SAN DIEGO UNIFIED SCHOOLS

Senior Division

Ullyott, Jessica - Gompers Prep Academy
Stuart, Michelle - La Jolla High School
Robertson, Mike - San Diego High
International Studies
Gillum, Elaine - Scripps Ranch High School
Reddy, Vijay - Scripps Ranch High School
Newman, Julia - Torrey Pines High School
Quessenberry, Maureen - University City HS

Junior Division

Smith, Sandra - Correia Middle School
Bridges, Michael - De Portola Middle
Huntington, Patricia - Farb Middle School
Baldwin, Christie - Grant Middle School
Baker, Richard - Marshall Middle School
Gillum, Elaine - Marshall Middle School
Kuo, James - Muirlands Middle School
Mendibles, Tommy - Wangenheim Middle

SAN DIEGO UNIFIED – CHARTER SCHOOLS

Junior Division

West, Sara - Harriett Tubman Village
Charter School

Senior Division

Munoz, Dania -King Chavez Community HS

How Can You Help the Greater San Diego Science & Engineering Fair?

The GSDSEF is an all-volunteer, registered tax-exempt California non-profit 501 (c) 3 Corporation, operating as a Public Charity Status, totally dependent on donations from industry, business and friends like you who have supported us over the years and help to make the science fair possible.



4 Ways to Make a Donation to the GSDSEF!

1. **Check** - I want to become a “**Friend of the GSDSEF**”- To make a tax deductible donation to the GSDSEF, all you have to do is make a check out payable to **GSDSEF** and mail to: **P.O. Box 15547, San Diego, CA 92175** or turn it to the science fair gift shop (cash accepted). Please include your name, address and contact information (optional).

2. **Credit Card**: Donate on our website **www.gsdsef.org**.

3. **Credit Card**

- a. Go to **www.guidestar.org** > Type **Greater San Diego Science and Engineering Fair** in search box



- b. Click on **Greater San Diego Science and Engineering Fair** > Click **Donate Now** button

4. **Von's eScrip Program (easy, no-cost)**

- a. Log onto **www.eScrip.com**, click “sign up” and use the Group name: **Gsdsef** – (exactly as written here) and the Group ID: **500001372**.
- b. eScrip Recycling: Bring your empty ink cartridges, old cell phones, and laser toner cartridges to the GSDSEF and drop them in the green recycling bin near the gift shop.

proudly presents

GSDSEF FAMILY DAY

March 18, 2018 from 10 AM to 3 PM

Located at Balboa Park Activity Center, 2145 Park Blvd., San Diego, CA92101

A Fun-Filled Day of Science and Entertainment for the Entire Family

Activity Schedule:

- **10 AM – 12 PM: SCAVENGER HUNT/SCIENCE CHALLENGES**

Can you make a duck call from an ordinary drinking straw? Or can you actually stick a wooden skewer through a balloon without popping it? Try it for yourself! (PRIZES ARE GIVEN)

- **10 AM – 11 PM: SAN DIEGO ASTRONOMY ASSOCIATION**

Telescopes, galaxies, and black holes unite!

- **11 AM – 12 PM: SAN DIEGO ZOO**

Come for a closer look at these special zoo visitors and meet some fun furry friends!

- **12 PM – 1 PM: SCIENCE DEMONSTRATIONS**

Come see liquids, gases, and solids demonstrate their powers; embrace your inner engineer to build striking towers; enjoy some science-inspired desserts from the power of cold ! (HANDS ON DEMONSTRATIONS)

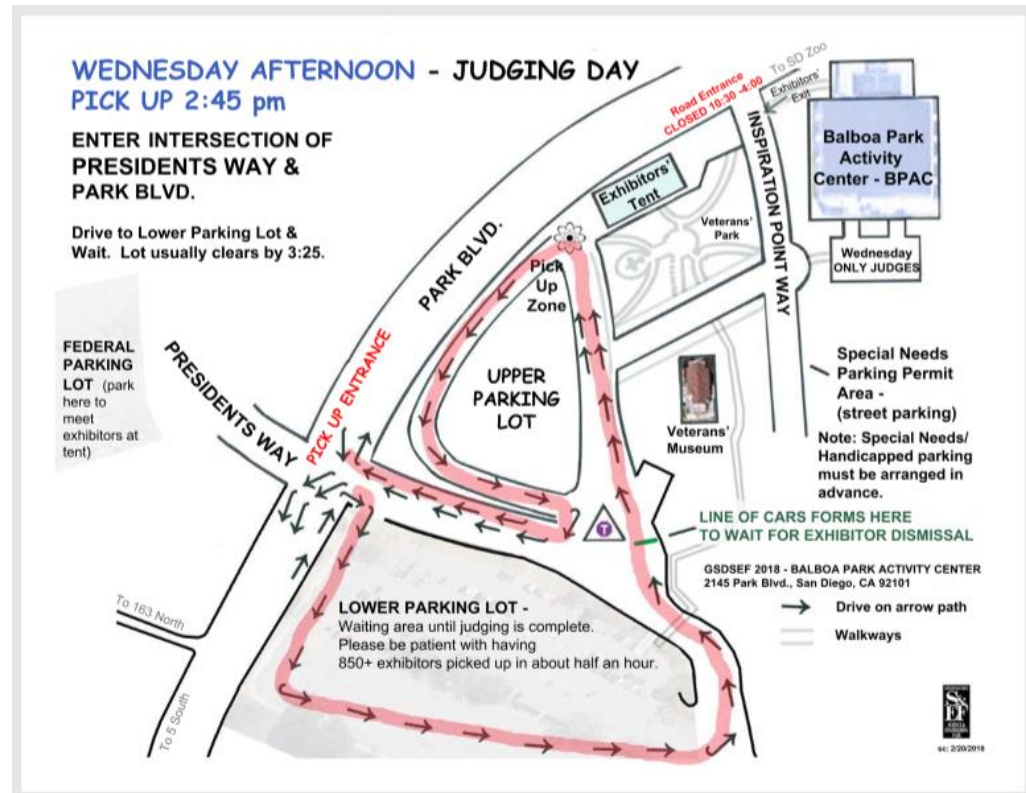
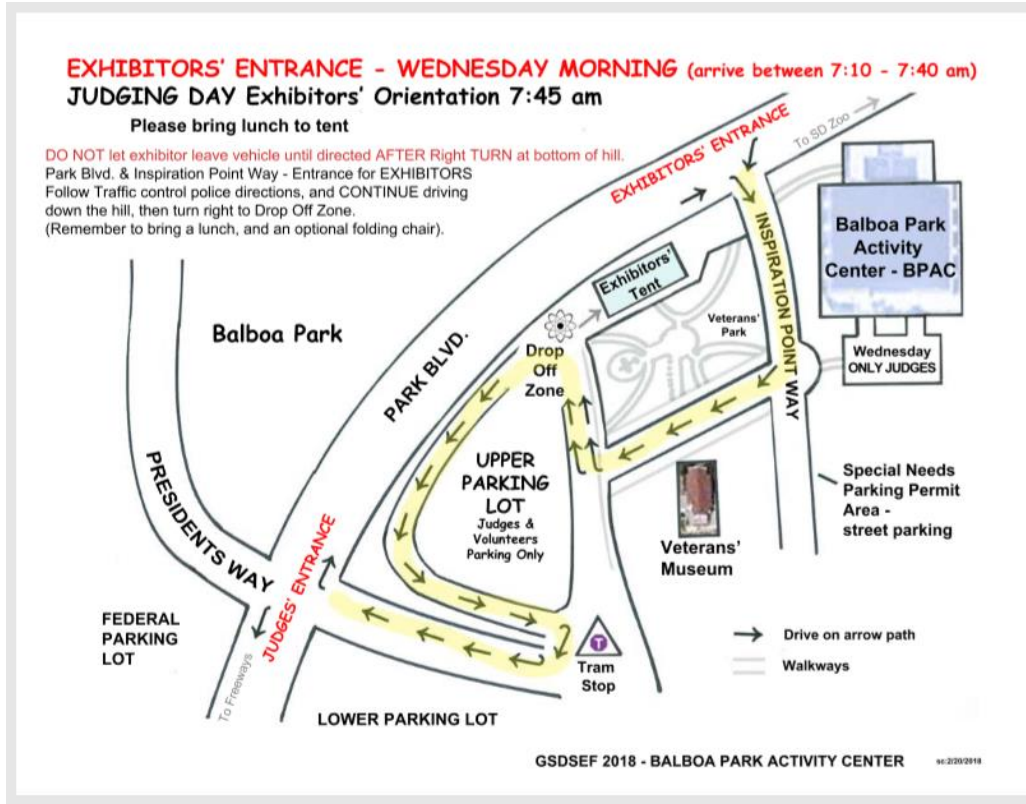
- **1 PM – 3 PM: STEM BOOTHS (CCA-iGEM, FTC Robotics)**

STEM based organizations from local high schools will be presenting their projects and prowess through interactive booths. Journey with the Canyon Crest Academy Synthetic Biology team as they solve problems through bacteria and microscopes, and be one with the robot with FTC Robotics! (HANDS ON DEMONSTRATIONS)



64th Annual Greater San Diego Science and Engineering Fair 2018

**Traffic and Parking Information for Judging Day
March 14, 2018**



For larger map, go to www.gsdsef.org