

* - Team Project

Place Award	Category	Last Name	First Name	School	Grade	Teacher/Advisor	Project Title
1st Place	Animal Sciences	Bruce	Daniel	Canyon Crest Academy	11	Haas	The Effects of Predation Risk on Interspecies Flight Initiation Distance
2nd Place	Animal Sciences	Settergren	Lucas	The Cambridge School	11	Gingrich	The Behavior and Life of Drosophila and its Mutants
3rd Place	Animal Sciences	Rabe	Heidi	Central Union High	10	Rueda	The Effect of Environmental pH on Pogonomyrmex Barbatus Forager Behaviors
1st Place	Behavioral/Social Sciences	Krishnamurthy	Nithya	Canyon Crest Academy	11	Haas	Hippocampal Theta Phase Precession Adapts to Changing Field Length: Implications for Episodic Memory
2nd Place *	Behavioral/Social Sciences	Martinez	Antonio	Central Union High	12	Rueda	The Effect of High School Grade Level on an Individual's Mindset
2nd Place *	Behavioral/Social Sciences	Villa	Alexandra	Central Union High	12	Rueda	The Effect of High School Grade Level on an Individual's Mindset
2nd Place *	Behavioral/Social Sciences	Nava	Clarrisa	Central Union High	12	Rueda	A Longitudinal Study of the Immediate Effects of Lies on the Human Body
2nd Place *	Behavioral/Social Sciences	Peralta-Ochoa	Marco	Central Union High	12	Rueda	A Longitudinal Study of the Immediate Effects of Lies on the Human Body
3rd Place	Behavioral/Social Sciences	De Jesus	Jocelyn	Gompers Preparatory	9	Ulliyott	Gender Frustration
3rd Place	Behavioral/Social Sciences	Garcia	Esmeralda	Central Union High	10	Rueda	Difference in Memory Retention Between Handwritten Notes and Digital Notes
3rd Place *	Behavioral/Social Sciences	Sayd	Khadija	National University Acad	9	Dillard	Do You get Easily Distracted While Multitasking?
3rd Place *	Behavioral/Social Sciences	Sayd	Sumeya	National University Acad	10	Dillard	Do You get Easily Distracted While Multitasking?
4th Place	Behavioral/Social Sciences	Sudthivongse	Jacqueline May	Gompers Preparatory Academy	9	Ulliyott	Clothing and Behavior

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4th Place	Behavioral/Social Sciences	Sysavath	Stephanie	Gompers Preparatory Academy	9	Ulyyott	Incentives to Increase Safety In San Diego
1st Place	Biochemistry	Reza	Samiha	Canyon Crest Academy	10	Haas	Escherichia Coli Potassium Binding Protein as a Potassium Ion Inhibitor
1st Place	Biochemistry	Situ	Julia	Canyon Crest Academy	10	Haas	Role of Circular RNAs in Drosophila Innate Immunity
1st Place	Biochemistry	Zaragoza	Sofia	Eastlake High	10	Bayley	Protein Dynamics of W215A Thrombin Mutant
1st Place *	Biochemistry	Bronar	Matt	Scripps Ranch High	12	Gillum	Identification of Metabolite Differences in Urine as a Form of Early Breast Cancer Diagnosis
1st Place *	Biochemistry	Provol	Jason	Scripps Ranch High	12	Gillum	Identification of Metabolite Differences in Urine as a Form of Early Breast Cancer Diagnosis
2nd Place	Biochemistry	Barjesteh	Taraneh	Canyon Crest Academy	11	Haas	The Effects of Cobalamin on Cell Growth Rate and Beta-Catenin and Cyclin D1 Expression in <u>Osteosarcoma and Fibroblast Cells</u>
2nd Place	Biochemistry	Gantla	Saikumar	Canyon Crest Academy	10	Haas	Discovering the Novel Applications of the Antimalarial Drug Atovaquone: An In-silico Investigation
3rd Place	Biochemistry	Ballard	Aurora	Mt. Everest Academy	10	Negus	Are all Coffee's Created Equal? Dunkin Donuts Vs. Starbucks
4th Place *	Biochemistry	Clamon	John	Bonita Vista High	10	Mardahl	Brine Shrimp vs. PVC
4th Place *	Biochemistry	Ibarguren	Jon	Bonita Vista High	10	Mardahl	Brine Shrimp vs. PVC
1st Place	Chemistry	Hansen-Estruch	Philippe	Canyon Crest Academy	11	Haas	Design of Biodegradable Energy Source to Power Wearable Electronics

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1st Place *	Chemistry	Nadig	Mihika	Torrey Pines	12	Newman	Dehydrocoupling to Stabilize Photonic Crystal-Based Porous Silicon Sensors
1st Place *	Chemistry	Yin	Andre	Westview High	11	Newman	Dehydrocoupling to Stabilize Photonic Crystal-Based Porous Silicon Sensors
3rd Place	Chemistry	Mohammad	Jameel	Eastlake High	11	Bayley	What are FDTs
1st Place	Computer Science	Dehaini	Dina	Scripps Ranch High	10	Naser-elddin	Early Fire Detection
1st Place	Computer Science	Hu	Hannah	La Jolla High	11	Teachworth	Image-Based Smog / Air Quality Prediction Algorithm
1st Place	Computer Science	Wildenhain	Patrick	Scripps Ranch High	11	Stock	Mitigating Flood Risk by Predicting River Heights Using Neural Networks
3rd Place *	Computer Science	Cervantes	Ivan	Gompers Preparatory Academy	12	Ulyyott	Computer Science
3rd Place *	Computer Science	Mencia	Angel	Gompers Preparatory Academy	10	Ulyyott	Computer Science
4th Place	Computer Science	Liu	Cassidy	Canyon Crest Academy	9	Haas	Recording and Reporting ISPE Activity in Smartphones
1st Place	Engineering - Electrical and Mechanical	Gauvreau	Paul	Canyon Crest Academy	11	Haas	Multicopter Automated Pollination
1st Place	Engineering - Electrical and Mechanical	Kuo	Alexandra	La Jolla High	11	Teachworth	Game, Set, Match: An Electronic Shoe for Playing Tennis
1st Place	Engineering - Electrical and Mechanical	Nichani	Arjun	Canyon Crest Academy	11	Haas	Determining Exit Velocity Through Ball Tracking by Using Computer Vision Techniques

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1st Place	Engineering - Electrical and Mechanical	Singh	Anshul	Scripps Ranch High	11	Gillum	Omnidirectional Drone Collision Avoidance
2nd Place	Engineering - Electrical and Mechanical	Cantwell	Amanda	Central Union High	10	Rueda	Piano Stairs
2nd Place *	Engineering - Electrical and Mechanical	McQuitty	Micah	Central Union High	10	Rueda	Gauss ProAcc
2nd Place *	Engineering - Electrical and Mechanical	Pummay	Harisher	Central Union High	11	Rueda	Gauss ProAcc
3rd Place	Engineering - Electrical and Mechanical	Gillcrist	Katherine	Mt. Everest Academy	11	Negus	Do Photographers Rely on The Golden Rules of Photography?
3rd Place	Engineering - Electrical and Mechanical	Gutierrez	Carlos Andres	Eastlake High	11	Bayley	Heat Powered Phone Charger
3rd Place	Engineering - Electrical and Mechanical	Malhotra	Niharika	Scripps Ranch High	9	Gillum	Special Needs Tetherball
3rd Place *	Engineering - Electrical and Mechanical	Martinez	Diego	Gompers Preparatory Academy	10	Ulyyott	Reagle the Robot
3rd Place *	Engineering - Electrical and Mechanical	Tablas	Jason	Gompers Preparatory Academy	9	Ulyyott	Reagle the Robot
4th Place	Engineering - Electrical and Mechanical	Collins	Kianna	Gompers Preparatory Academy	9	Ulyyott	Upright ROV
1st Place	Engineering - Energy and Transport	Huang	Lucas	Mt. Everest Academy	11	Tran	Osmotic Power: Blue Energy from Pressure Between Differing Water Salinities
1st Place	Engineering - Energy and Transport	Lew	Ken	La Jolla Country Day	9	Padgett	Analysis Of Aerodynamic Performance between the Kline-Fogleman Vs Standard Airfoils

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1st Place	Engineering - Materials and Bioengineering	Chen	Maggie	Canyon Crest Academy	11	Haas	Synthesis of a Biomimetic Artificial Kidney Using Cell-Membrane Coated Nanotherapeutics and 3D-Printing
1st Place	Engineering - Materials and Bioengineering	Ferguson	Samuel	Christian Unified High	12	Ferguson	Diagnosing the Puzzle of Autism - A Wearable Micro-Movement Sensing Cap for Early Pediatric Screening
1st Place	Engineering - Materials and Bioengineering	Wang	Matthew	Scripps Ranch High	11	Stock	Characterization of the Osteochondral Interface with Digital Volumetric Imaging
3rd Place	Engineering - Materials and Bioengineering	Luberto	Judah	The Cambridge School	11	Gingrich	Soft Pneumatic Actuator Exoskeleton with Focus on Light-weight Capabilities, Small Size, Price, and Endurance
1st Place	Environmental Science and Management	Kahn	Samuel	High Tech High Media Arts	9	Millow	Post-Fire Regeneration in Coastal Sage Scrub – 3rd Year of Study
1st Place	Environmental Science and Management	Singh	Richa	Scripps Ranch High	9	Gillum	Lead Detection in Water
2nd Place	Environmental Science and Management	Talamantez	Mary	Bonita Vista High	12	Mardahl	Bioremediation of Eutrophic Bodies of Water
2nd Place	Environmental Science and Management	Pastore	Aspen	La Jolla High		Teach-worth	
3rd Place	Environmental Science and Management	Austin	Jasmyn	Bonita Vista High	10	Mardahl	Cleaning Water Efficiently
3rd Place	Environmental Science and Management	Diaz`	Clarissa	Central Union High	11	Rueda	Water Quality Determination from Daphnia Magna's Survival Rate
3rd Place	Environmental Science and Management	Gillcrist	David	Mt. Everest Academy	9	Pachon	Insecticide: Defender or Destroyer
4th Place	Environmental Science and Management	Crimmel	Jon	Gompers Preparatory	9	Ulyyott	Biodiversity in our Neighborhood

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1st Place	Mathematical Sciences	Madhukara	Rachana	Canyon Crest Academy	9	Haas	Dynamics on the Rado Graph
1st Place *	Mathematical Sciences	Reddy	Meghana	Francis Parker	12	Hanscom	Reddy's Corollary
1st Place *	Mathematical Sciences	Reddy	Rakesh	Francis Parker	9	Hanscom	Reddy's Corollary
2nd Place	Mathematical Sciences	Lopatka	Kevin	Rancho Bernard High	9	Lopatka	Pitching a New Idea: Statistical Analysis of Pitcher Selection
2nd Place *	Mathematical Sciences	Hoh	Jodie	Torrey Pines High	11	Newman	Algorithm for Demonstrating an Achievable Folding Procedure for a Convex Polygon with n sides ($2 < n < 13$)
2nd Place *	Mathematical Sciences	Ren	Kevin	Torrey Pines High	11	Newman	Algorithm for Demonstrating an Achievable Folding Procedure for a Convex Polygon with n sides ($2 < n < 13$)
1st Place	Medicine and Health Sciences	Guru	Aditya	Torrey Pines High	11	Newman	Identification of novel ciliary protein mutations causing retinal degenerataion
1st Place	Medicine and Health Sciences	Nguyen	Emily	Mt. Everest Academy	11	Negus	Effects of Dietary Supplements on Pesticide-Induced Neurodegeneration in <i>Dugesia tigrina</i>
1st Place	Medicine and Health Sciences	Xia	Brian	Canyon Crest Academy	12	Haas	Early-life epigenetic therapies to delay aging and multiple aging-related diseases
1st Place	Medicine and Health Sciences	Zhang	Daniel	Westview High	11	Ingram	Genome-Based Discovery of Novel CpG Biomarkers for Early Diagnosis and Prognosis of Leukemia
2nd Place	Medicine and Health Sciences	Agashe	Reva	Canyon Crest Academy	10	Haas	Effect of Various Tyrosine-Kinase Inhibitors on SH_SY5Y-APP Clone 3 Cells
2nd Place	Medicine and Health Sciences	Ju	Saeyeon	Scripps Ranch High	10	Gillum	Alteration of cancer nuclei by expedited approach for visualization of 3D image stacks using IMOD

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2nd Place	Medicine and Health Sciences	Sahana	Kumar	Francis Parker	10	Whimpy	
2nd Place	Medicine and Health Sciences	Verdolin	Michael	Eastlake High		Bayley	
3rd Place	Medicine and Health Sciences	Horiuchi	Miyu	Central Union High	12	Rueda	Validating the Effectiveness of Proteolytic Enzyme Supplements to Digest Protein
3rd Place	Medicine and Health Sciences	Strumlauf	Alexander	Mt. Everest Academy	9	Pachon	What are the effects of Stance on Accuracy?
3rd Place	Medicine and Health Sciences	Villa	Monica	Central Union High	11	Rueda	The Effect of Age/Headphones on the Hearing Sense of Humans
Microbiology							
1st Place	Microbiology	Li	Raymond	Canyon Crest Academy	10	Haas	A novel approach to help Lactobacillus survive stomach acid
1st Place	Microbiology	Merk	Liana	Canyon Crest Academy	12	Haas	Uncovering the Transcriptional Secrets of Protective O21 H+ E. Coli
2nd Place	Microbiology	Morse	Isabella	Central Union High	11	Rueda	Heat and Moisture Exchanger Resistance to Bacterial Contamination over Time
2nd Place	Microbiology	Schapiro	Risa	Mt. Everest Academy	9	Huy	Peppermint: Efficacy as an Oral Rinse
4th Place	Microbiology	Hwang	Daniel	Canyon Crest Academy		Haas	
Physics and Astronomy							
1st Place	Physics and Astronomy	Catanzaro	Dominic	Cathedral Catholic High	12	Rafie	Quick-Aligning Telescopes
1st Place	Physics and Astronomy	Kim	Jae	La Jolla High	12	Teachworth	Saving the World, One Asteroid at a Time

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2nd Place	Physics and Astronomy	van den Bergh	Greta	Mt. Everest Academy	9	Pachon	Astronomic Measurement of HJL1020
3rd Place	Physics and Astronomy	Tam	Colin	Eastlake High	11	Bayley	Gravitational Acceleration on an Inclined Plane
1st Place	Plant Sciences	Lewis	Nathan	Classical Conversation	10	Lewis	Effects of Water Salinity on Plant Growth
1st Place	Plant Sciences	Rehan	Aadil	Canyon Crest Academy	10	Shakeri	A Multilateral Approach to Combatting the Recurrence of Phytophthora cinnamomi
1st Place *	Plant Sciences	Laqua	Nico	Canyon Crest Academy	11	Haas	Novel biogasoline production via macroalgal duckweeds by the operon expression method IL-60
1st Place *	Plant Sciences	Tran	Annam	Canyon Crest Academy	11	Haas	Novel biogasoline production via macroalgal duckweeds by the operon expression method IL-60
2nd Place	Plant Sciences	Plancarte	Victor	Central Union High	10	Rueda	Pollination When Raining?
2nd Place	Plant Sciences	Setzer	Nicholas	Canyon Crest Academy	11	Haas	The Novel Study of The Symbiotic Relationship Between Phaseolus Vulgaris, Rhizobium Bacteria,
2nd Place *	Plant Sciences	Marin	Jessica	Central Union High	11	Rueda	Hydroponics vs Soil Grown
2nd Place *	Plant Sciences	Nava	Kiana	Central Union High	11	Rueda	Hydroponics vs Soil Grown
3rd Place	Plant Sciences	De La Rosa	Alexis	Central Union High	10	Rueda	The Effects of Gibberellic Acid on Growth Rate and Photosynthesis
3rd Place	Plant Sciences	Shiffer	Catherine	Central Union High	10	Rueda	Synergetic Effect of Plant Hormones on Medicago Sativa
4th Place	Plant Sciences	Al-Jasim	Hannah	Central Union High	10	Rueda	Plant Seed Culture