68th Annual Greater San Diego Science & Engineering Fair - 2022
Categorical Place Awards by Last Name

Project ID	Award	Last Name	First Name	Gr	Project Title	School	Tchr/Adv
SENIOR DIVISION - ANIMAL SCIENCES							
SR-ANIM-261	3rd	Cruz	Diego	11	To What Extent Has Climate Change Affected the Lives of Polar Bears	Bonita Vista High School	J. Ekstein
SENIOR DIVISION - BEHAVIORAL AND SOCIAL SCIENCES							
SR-BEHA-127	2nd	Botello	Natalie	11	The Effect of Blue Light on Hours of Sleep	Central Union High School	L. Rueda
SR-BEHA-128	2nd	Figueroa	Alynna	10	The Effect of Masks on Facial Perception	Central Union High School	L. Rueda
SR-BEHA-046	1st CSEF	Foss	Spencer	9	Testing Visual Priming	San Diego Jewish Academy 9-12	P. Hagarman
SR-BEHA-172 Team	3rd	Kim Kim	Gina Ryan	11 10	The Factors That Influence the Popularity of Music Channels on Youtube	Del Norte High Westview High	A. Callicott A. Champoux
SR-BEHA-290	1st CSEF	Mohamed	Samiya	10	In-Person Learning vs. Online Learning	Bright Horizon Academy	N. Naserelddin
SR-BEHA-126	3rd	Munoz	Priscila	12	Difference in the Correlation Between Recurring Dream Themes and Anxiety Disorders in 2019 and 2022	Central Union High School	L. Rueda
SENIOR DIVISION - BIOCHEMISTRY							
SR-BCHM-125	1st CSEF GA RU1-LS	Noto	Matthew	11	Novel Inhibitors for Conserved Regions of RecA to Slow the Development of Antibiotic Resistance in Bacteria	Canyon Crest Academy	A. Siegel
SR-BCHM-308	NS	Sahid	Mahdi	10	Vitamin D Absorbency	Bright Horizon Academy	N. Naserelddin
SENIOR DIVISION - BIOMEDICAL/HEALTH SCIENCES AND BIOENGINEERING							
SR-BMDE-292	3rd	Ali	Amiira	11	Is There a Link Between Blood Type and COVID-19?	Bright Horizon Academy	N. Naserelddin
SR-BMDE-249	1st CSEF	Cao	Cindy	11	Serology of Hospitalized COVID-19 Patients	Torrey Pines High School	B. Belyea
SR-BMDE-309	1st CSEF	Cotuk	Zeynep	11	Nano-material Based Encapsulation Approach for Longevity of Implantable Microelectronic Devices	Scripps Ranch High School	P. Fowler
SR-BMDE-291	2nd	Dandu	Neha	11	An Automated Diagnosis of Heart Disease Using Machine Learning	Canyon Crest Academy	A. Siegel
SR-BMDE-135	2nd	Hernandez	Ashley	12	The Effect of Energy Drinks on Daphnia Magna	Central Union High School	L. Rueda

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colspan=8	**SENIOR DIVISION - BIOMEDICAL/HEALTH SCIENCES AND BIOENGINEERING (cont'd)**						
SR-BMDE-136 Team	2nd	Hussain Kareem	Daanya Rozita	10 10	Detrimental Effects of Sugars on the Gut Microbiota	Bright Horizon Academy	N. Naserelddin
SR-BMDE-343	1st CSEF	Jung	Chris	11	Structural Analysis and Pharmacodynamic Characterization of a Cyclic Diterpene from Lophogorgia Coral	Canyon Crest Academy	A. Siegel
SR-BMDE-262	2nd	Kalyanaraman	Anirudh	9	Automated Detection of Traumatic Brain Injury (TBI) Using Cranial CT Images	Mt. Carmel High School	J. Earnest
SR-BMDE-132	1st CSEF	Krishnan	Maya	10	Double COVID-19 Antigen Rapid Test Strips: Nucleocapsid and Spike Proteins	La Jolla Country Day School	D. Padgett
SR-BMDE-129	1st CSEF	Kulkarni	Vidhi	10	Analysis of the Cytosolic DNA-Sensing Pathway and RNA Samples for the Early Diagnosis of Alzheimer's in Coronary Artery Disease Patients	Del Norte High School	J. Cheskaty
SR-BMDE-280	1st CSEF	Mandyam	Atulya	12	Novel Biomarker for Identification of Bipolar Disorder Treatment Response	Westview High School	M. Ingram
SR-BMDE-130	1st CSEF	Nayebnazar	Arshia	10	Developing a Machine Learning Model to Predict Hypoxemia in Subjects at Risk	Canyon Crest Academy	A. Siegel
SR-BMDE-134	1st CSEF	Yang	Elita	11	Quantitative Analysis of COVID-19 Using Nanoantibodies, Fluorescence Imaging, and Machine Learning	Pacific Ridge High School	L. O'Brien
SR-BMDE-131	1st CSEF	Zeng	Audrey	11	DO-SRS Microscopy Imaging of Lipid Metabolic Changes in Drosophila Ovary During Aging	Del Norte High School	J. Cheskaty
SR-BMDE-133	2nd	Zhang	Sydney	9	Dual Biomarkers for Point of Care Diagnosis of Dry Eye Disease	Westview High School	M. Ingram
SENIOR DIVISION - CHEMISTRY						
SR-CHEM-235	3rd	Chaturvedi	Archit	11	Reaction Rate Theory-based Mathematical Approximation for the Time It Takes for Cellular Respiration to Occur	Canyon Crest Academy	E. Fisher
SR-CHEM-146	1st CSEF	Coronel-Villarreal	Hector	10	The Effect of Temperature on BPA Release In Water Bottles	Central Union High School	L. Rueda

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					SENIOR DIVISION - CHEMISTRY (cont'd)		
SR-CHEM-236	2nd	Gao	Sarah	9	Towards Green Chemistry: Predicting Molecular Optical Properties and Aquatic Biotoxicity in Silico	Canyon Crest Academy	A. Siegel
SR-CHEM-245	1st CSEF	Jeenagala	Jitendra-kumar	11	Fractionation and Analysis of Degraded Healthcare Product, St. Ives Body Lotion	Canyon Crest Academy	R. Shenvi
					SENIOR DIVISION - COMPUTATIONAL BIOLOGY AND BIOINFORMATICS		
SR-CBIO-144	2nd	Anusha Vijayanand	Laya	10	The Impact of Population Genetics on the Severity of COVID-19 Disease	Canyon Crest Academy	A. Siegel
SR-CBIO-281	3rd	Arora	Aarav	10	Forecasting Future Mutations of the SARS-CoV-2 Spike Protein	Del Norte High School	A. Callicott
SR-CBIO-233	1st CSEF GA-LS	Cai	Daniel	12	Deep Learning-Aided Diagnosis of Autoimmune Blistering Diseases	Torrey Pines High School	B. Belyea
SR-CBIO-142	2nd	Cao	Jessy	11	Predicting Age Using Electrocardiogram Data: Deep Learning Using an Autoencoder	University City High School	L. Wymer
SR-CBIO-263	1st CSEF GA-LS	Chaturvedi	Amogh	11	A Novel Multi-omics Data Integration Framework Using Attributed Networks for Biomedical Classification	Canyon Crest Academy	E. Fisher
SR-CBIO-145	2nd	Dai	Nathan	10	Understanding the Spread of COVID-19 Through an Analysis of Air Pollution, Weather, Social, and Economic Factors	Canyon Crest Academy	A. Siegel
SR-CBIO-137	1st CSEF	De	Rohit	11	Accelerated Pattern Matching for Genome Sequencing Using Quantum Computing	Del Norte High School	J. Buehler
SR-CBIO-138	1st CSEF	Gantla	Maanaskum	11	Discovery of Novel Therapeutics for COVID-19 by Screening of FDA Approved Drugs Through Machine Learning	Canyon Crest Academy	A. Siegel
SR-CBIO-140	1st CSEF	Gao	Andrew	12	Generating Novel Anti-hemolytic Antiviral Peptides with Language-based Machine Learning	Canyon Crest Academy	A. Siegel
SR-CBIO-234 Team	2nd	Geering Nguyen	Giselle Vivian	11	Investigating the Effects of SARS-CoV-2 Receptor Binding Domain Mutations Through Computational Modeling	Bonita Vista High School	M. Mardahl-Dumesnil

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colspan=8: **SENIOR DIVISION - COMPUTATIONAL BIOLOGY AND BIOINFORMATICS (cont'd)**							
SR-CBIO-266	1st CSEF	Goudarzi	Shervin	11	Modeling Cancer Prognosis and Risk with Epigenetic Germline Variants Underlying Topological Associated Domains	Canyon Crest Academy	A. Siegel
SR-CBIO-264	2nd	Gupta	Kavya	11	Energy Efficiency Between Different Synaptic Vesicle Release Locations	Westview High School	M. Ingram
SR-CBIO-139	NS	Jung	Eleanor	11	Docking and Molecular Dynamics Simulation of a Novel Treatment for Klebsiella pneumoniae	Mt. Carmel High School	A. Klingborg
SR-CBIO-143	2nd	Kapoor	Ishan	11	Robust Multi-Modal, Deep Ensemble Network for Differential Diagnosis of Early Depression	Del Norte High School	S. Kapoor
SR-CBIO-265	2nd	Khattar	Zinia	9	Identifying Biomarkers of Distinctive Stress Signaling Pathways to Mitigate Pathologies Associated with Etiologically Diverse Diseases	Del Norte High School	J. Cheskaty
SR-CBIO-250	2nd	Pai	Krish	9	Detecting Propensity of Breast Cancer Using Neural Networks	Torrey Pines High School	R. Eddingfield
SR-CBIO-274	1st CSEF	Peddakama	Rishi	11	A Deep Learning Approach to Thyroid Cancer Diagnosis	Del Norte High School	S. Peddakama
SR-CBIO-141	2nd	Rupesh	Bhadra	10	Identifying Biomarkers for Severe COVID-19 through Single Nucleotide Polymorphisms in Type I & III Interferon-Pathway-Affecting Genes	The Bishop's School	L. Keller
SR-CBIO-293	2nd	Samy	David	10	Live Tracking of Structural Data of SARS CoV-2, the Causative Agent of COVID-19	Canyon Crest Academy	K. Hare
SR-CBIO-344	1st CSEF	Tsui	Andrew	10	Alzheimer's Diagnosis Using PET Imaging and EEG Data through Machine Learning	Canyon Crest Academy	A. Siegel
SR-CBIO-173	2nd	Yu	Andrew	10	Investigation of Potential Gene Pathways in Acute Myeloid Leukemia that Relate to Mutated NRAS	Canyon Crest Academy	A. Siegel
SENIOR DIVISION - COMPUTER SCIENCE AND SYSTEMS SOFTWARE							
SR-COMP-267	2nd	Alwazir	Solaiman	11	Early Prediction of Heart Failure Using Machine Learning	Bright Horizon Academy	N. Naserelddin

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					SENIOR DIVISION - COMPUTER SCIENCE AND SYSTEMS SOFTWARE (cont'd)		
SR-COMP-149	2nd	Chen	Richard	11	Error Mitigation of Quantum Teleportation on IBM Quantum Computers	Canyon Crest Academy	A. Siegel
SR-COMP-150	2nd	Desai	Rohan	11	Practical Deep Learning Trade-off Strategies Between Prediction Accuracy and Computational Speed	Canyon Crest Academy	A. Siegel
SR-COMP-237	1st CSEF	Hou	James	11	Data and Computation Efficient Mitigation of Racial Bias in Language Models	The Bishop's School	M. Jaiclin
SR-COMP-345	1st CSEF	Irigireddy	Ritvik	10	Early Diagnosis of Diabetic Retinopathy Using Deep Learning	Canyon Crest Academy	A. Siegel
SR-COMP-311	2nd	Khanvilkar	Manav	11	Deep-Learning Aided Facial Recognition System Using Open-CV	Canyon Crest Academy	D. Celniker
SR-COMP-310	1st CSEF	Kumar	Sanjana	10	AI-Based Behind-The-Wheel Drowsiness and Distraction Detection	Francis Parker School	J. Pierce
SR-COMP-337	2nd	Rao	Saanvi	9	Skin Disease Diagnostic App - Using Tensorflow-based Machine Learning on iOS	Canyon Crest Academy	A. Siegel
SR-COMP-151 Team	2nd	Rao Rao	Rahul Rikhil	10 10	Detection of Pathologic Breath Sounds Using a Novel Digital Auscultation Tool	Canyon Crest Academy	K. Hare
SR-COMP-147	1st CSEF	Sridharan	Agastya	10	An Automated News Article Bias Classifier Using a C. Elegans Inspired Recursive Feedback Neural Network Architecture	Scripps Ranch High School	P. Fowler
SR-COMP-148	2nd	Wang	Amy	11	Correcting Bias in AI-based Talent Acquisition Systems	Westview High School	S. Zhong
SR-COMP-189	3rd	Zahir	Zalkifl	10	Predicting the Projection of Cryptocurrency with Machine Learning	Bright Horizon Academy	N. Naserelddin
					SENIOR DIVISION - EARTH AND ENVIRONMENTAL SCIENCES		
SR-EAEV-275	1st CSEF	Alwazir	Issa	11	How to Maximize Water Quality Long Term Cost Effective Solution	Bright Horizon Academy	N. Naserelddin
SR-EAEV-153	1st CSEF	Barrett	Aimee	11	Salvation from Oil Spills	Central Union High School	L. Rueda
SR-EAEV-282	3rd	Calderon	David	11	To What Extent Does a Country's Poverty Rate Affect Its Carbon Emission	Bonita Vista High School	J. Ekstein

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					SENIOR DIVISION - EARTH AND ENVIRONMENTAL SCIENCES (cont'd)		
SR-EAEV-346	2nd	Comer	Kelly	11	To What Extent Does Motor Oil Pollution Affect the Growth and Germination of Marigold (Tagetes erecta) Plants Over Time?	Bonita Vista High School	J. Ekstein
SR-EAEV-313	4th	Darcy	Emilio	12	To What Extent Does a Country's Population Density Affect It's Carbon Emissions	Bonita Vista High School	J. Ekstein
SR-EAEV-314	2nd	Garcia	Lannah	11	What Impact Has the Unified Vehicular Volume Reduction Program Had on levels of CO_2, PM10, Ozone and NO_2 in Manila Over Time?	Bonita Vista High School	J. Ekstein
SR-EAEV-157 Team	2nd	Garcia Sagrati	Isabella Giorgio	12 11	To What Extent Do Mushrooms Absorb Oil in Water?	Bonita Vista High School	J. Ekstein
SR-EAEV-270 Team	4th	Hernandez Ruiz	Abramsky Elizabeth	12 11	The Effect of Laundry Detergent on the Growth of Phaseolus Vulgaris (Bean Plants)	Bonita Vista High School	J. Ekstein
SR-EAEV-154	2nd	Kuemmerle	Nolan	11	To What Extent Different Substrates of Mud Affect the Amount of Energy Generated?	Bonita Vista High School	J. Ekstein
SR-EAEV-179	1st CSEF	Lai	William	11	Predicting Fine Aerial Particulate Matter Pollution from Wildfires Using a Regression Model	The Bishop's School	J. Bloom
SR-EAEV-338	3rd	Majidi	Fahad	10	Using Filtered Greywater for an Advanced Irrigation System	Bright Horizon Academy	N. Naserelddin
SR-EAEV-251	2nd	Maywood	William	11	To What Extent is Otay Lakes Reservoir Water at High Probability for Eutrophication	Bonita Vista High School	J. Ekstein
SR-EAEV-347	1st CSEF	Natala	Shruti	11	Developing an Early Oil Spill Detection System Using Artificial Intelligence and Live Satellite Images	Scripps Ranch High School	P. Fowler
SR-EAEV-268	3rd	Nava	Diego	11	The Effects of Lockdown on CO_2 Emissions	Bonita Vista High School	J. Ekstein
SR-EAEV-156 Team	1st CSEF	Navarro Picart	Dahlia Gianna	11 11	To What Extent Does Urban Runoff Affect Bacopa Caroliniana (Blue Water Hyssop)	Bonita Vista High School	J. Ekstein
SR-EAEV-155	3rd	Quezada	Jaynne	11	To What Extent Do Forest Fires Affect the Growth and Germination of California Poppy (Eschscholzia Californica)?	Bonita Vista High School	J. Ekstein

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					SENIOR DIVISION - EARTH AND ENVIRONMENTAL SCIENCES (cont'd)		
SR-EAEV-269	3rd	Santacruz	Kyle	11	To What Extent Does Motor Oil Affect Pea Plant (Pisum Sativum) Germination and Growth?	Bonita Vista High School	J. Ekstein
SR-EAEV-152	2nd	Turquie	Esther	11	Effect of Oil-Based Paint on the Growth of Moss	Bonita Vista High School	J. Ekstein
SR-EAEV-312	3rd	Zangana	Soleen	11	To What Extent Does Plastic Buried into the Soil Affect the Germination and Growth of Raphanus sativus (Radishes)?	Bonita Vista High School	J. Ekstein
					SENIOR DIVISION - ENGINEERING: ELECTRICAL, MECHANICAL, AND ROBOTICS		
SR-EEMR-160	2nd	Backer	Bart	11	Effective Auditory Direction and Intensity Detection for Robots Interacting with Humans	Rancho Bernardo High School	Y. Eibeck
SR-EEMR-252	2nd	Bantval	Pranav	11	Using an EDSR Model to Reconstruct Vehicle Images from Traffic Surveillance Cameras	Canyon Crest Academy	A. Siegel
SR-EEMR-158	3rd	Bharadwaj	Akshaj	10	Adaptive Machine Learning for Computer Vision Using Edge TPU and Cloud	Canyon Crest Academy	A. Siegel
SR-EEMR-348	2nd	Munshi	Ronit	9	Robotic Spider	Canyon Crest Academy	D. Munshi
SR-EEMR-159	1st CSEF	Qiao	Luke	11	Adaptive Musical Accompaniment - Novel Real-Time BPM Detection Via Cyclic Tempogram Representations of Audio Signals	Canyon Crest Academy	A. Siegel
SR-EEMR-161	1st CSEF	Radic	Peter	11	Geolocation of Wireless and Radio Emitters in Real Time	Canyon Crest Academy	A. Siegel
SR-EEMR-283	1st CSEF	Wang	Renee	10	Deconstructable Tiny Homes for Homelessness	The Bishop's School	A. Pelletier
					SENIOR DIVISION - ENGINEERING: ENERGY, MATERIALS, AND TRANSPORT		
SR-EEMT-284	1st CSEF GARU2-PS	Fan	Kara	11	Insect-inspired Nanopillared Materials to Prevent Bacterial Growth	Westview High School	M. Ingram
SR-EEMT-162	2nd	Li	Grace	11	Optimizing Microbial Fuel Cell Output	Scripps Ranch High School	P. Fowler
SR-EEMT-163	1st CSEF	McWilliams	Jessica	11	Personal Wind-Powered Charging Device	Scripps Ranch High School	P. Fowler
SR-EEMT-216	4th	Palayur	Sarah	11	Plasma as an Alternative Energy Source for Propulsion	St. Joseph Academy 9-12	J. Schoenfeld

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SR-EEMT-271	1st CSEF	Schremmer	Bella Rose	11	Point Absorber Wave Energy Converter Devices on Pre-Existing Marine Structures: An Economic & Sustainable Energy Solution	University City High School	J. Bosch
SR-EEMT-294	2nd	Tatineni	Nitika	10	Analyzing Bridge and Building Structure Health Using Machine Learning	Canyon Crest Academy	K. Hare
SENIOR DIVISION - MATHEMATICS							
SR-MATH-238	1st CSEF GA-PS	Bosworth	Rohan	11	End-to-End Path Planning and Control for Autonomous Vehicles Using Inverse Kinematics with Parameterized Arc Length	Poway High School	K. Woldseth
SR-MATH-166	4th	Broudy	Reuben	11	To What Extent Does the Amount of Carbon Emissions Produced by Countries Correlate to the Amount of Human Rights Violations?	Bonita Vista High School	J. Ekstein
SR-MATH-164	3rd	Erat	Sidarth	9	A Game-Theoretic Model for Internet User-Generated Networks	Torrey Pines High School	M. Livingston
SR-MATH-165	1st CSEF GARU1-PS	Xu	Shirley	11	A Heuristic Solution to the Closest String Problem Using Wave Function Collapse Techniques	The Bishop's School	M. Jaiclin
SENIOR DIVISION - MICROBIOLOGY							
SR-MCRO-239	1st CSEF GARU2-LS	Dong	Elaine	11	Crosslinked Zinc Oxide Nanoparticles: A Novel Approach to Combatting Antibacterial Resistance and Nanoparticle Toxicity	Canyon Crest Academy	A. Siegel
SR-MCRO-295	3rd	Kazi	Hafsah	9	The Effects of Beta Amyloid and Natural Remedies on Planarian	Bright Horizon Academy	N. Naserelddin
SR-MCRO-296	2nd	Mumin	Abdurahman	10	Using Planaria as a Model Organism for Multiple Sclerosis - An Alternative Approach Examining the Use of Naturopathic Medicine	Bright Horizon Academy	N. Naserelddin
SENIOR DIVISION - PHYSICS AND ASTRONOMY							
SR-PHYS-339 Team	1st CSEF	Chandra Dresios	Vikramaditya Demetrios	9 9	Using Machine Learning and GAIA to Analyze Relationships Between Molecular Clouds and Open Star Clusters	San Marcos High Carlsbad High	S. Bireddy

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					SENIOR DIVISION - PHYSICS AND ASTRONOMY (cont'd)		
SR-PHYS-168	1st CSEF	Li	Andrew	11	The Age of the Coma Ber Cluster II: Denoising Astronomical Images	Canyon Crest Academy	A. Siegel
SR-PHYS-167	3rd	Madhukara	Nandana	9	Analyzing the Chaos of the Generalized Henon-Heiles System with Numerical Methods	Canyon Crest Academy	E. Fisher
SR-PHYS-315	1st CSEF GA-PS	Nayak	Ayush	11	Using Antimony Indium Quantum Dots for Next Generation High Mobility Transistors	Westview High School	S. Halander
SR-PHYS-174	2nd	Xu	Alex	10	Optimization of Leakage Suppression in Charge Quadrupole Qubits	Canyon Crest Academy	A. Siegel
					SENIOR DIVISION - PLANT SCIENCES		
SR-PLNT-169	2nd	Caballero	Noah	11	Impact of Runoff Containing Motor Oil and Soap on Mint Seeds	Bonita Vista High School	J. Ekstein
SR-PLNT-170 Team	3rd	Catalan Iniguez	Gabriel Alex	11 11	To What Extent Does UV Light Affect the Growth and Germination of Dactylis Gloremata	Bonita Vista High School	J. Ekstein
SR-PLNT-272	3rd	Engen	Jessica	11	To What Extent Do the Ashes of Forest Fires Affect the Growth of California Daisies (Bellis Perennis)?	Bonita Vista High School	J. Ekstein
SR-PLNT-171 Team	3rd	Jacobs Ramirez	Zalia Ariana	11 11	To What Extent Does Acid Rain Affect Pinto Beans?	Bonita Vista High School	J. Ekstein
SR-PLNT-177	1st CSEF	Zhang	Jocelyn	10	Infrared Thermal Imaging and Statistical Analysis for Plant Stress Detection and Phenotyping	Del Norte High School	J. Cheskaty