

Applied Mechanics & Structures, Second Place

Alexis T. MacAvoy, Grade 7

Crocker (William H.) Middle School, Hillsborough City School District

[**A Rising Power: Improving the Power Output of Microbial Fuel Cells, a Solution to Our Quest for Renewable Energy Sources**](#)

Applied Mechanics & Structures, Honorable Mention

Natalie R. Dean, Grade 8

All Souls Catholic Elementary School

[**What Does a Simple, Low-cost, 3D-printed Design for an Automated Robotic Prosthetic Look Like \(Phases 1b, II, and III\)?**](#)

Computational Systems & Analysis, Honorable Mention

Iliana R. Close, Grade 8

Keira Swej, Grade 8

Central Middle School, San Carlos School District

[**Automated Feature Detection for Diagnosing Neurodegenerative Diseases**](#)

Computational Systems & Analysis, Honorable Mention

Houjun (Jack) Liu, Grade 7

Hillview Middle School, Menlo Park City School District

[**Comparing the Effects of Various Corpora's Qualities on NLG/NLP Systems**](#)

Electronics and Electromagnetics, First Place

Andrew T. Land, Grade 10

Carlmont High School, Sequoia Union High School District

[**Light on the G String: Novel Optical Pickup for Electric Cello**](#)

Environmental Science, Honorable Mention

Boldizsar T. Szabo, Grade 6

Nesbit Middle School, Belmont-Redwood Shores Elementary School District

[**Plants that Change Climate Change**](#)

Mammalian Biology, Fourth Place

Sophia J. Eno, Grade 7

The Nueva School

[**The Influence of Sound on Brainwaves and Mood**](#)

Mathematical Sciences, Second Place

Alexa A. Wingate, Grade 7

The Nueva School

[**Fermat vs. Brute Force: The Making of a Better Primality Test**](#)

Mathematical Sciences, Third Place

Jack D. Albright, Grade 8

The Nueva School

[**Predicting the Future: Using Machine Learning to Forecast the Progression of Alzheimer's Disease**](#)

Mathematical Sciences, Third Place
John Kim, Grade 11
Menlo School

[Emotion Recognition from Human Speech Using Temporal Information and Deep Learning](#)

Microbiology, Fourth Place

Aarya Mukherjee, Grade 7
San Carlos Charter Learning Center

[Microbes on Meats](#)

Physics and Astronomy, Second Place

Caden Annison, Grade 8
Hillview Middle School, Menlo Park City School District

[Determining if Concrete Is a Liable Screen against Galactic Cosmic Radiation](#)

Product Science (Biological), Honorable Mention

Christopher S. Kwok, Grade 7
Nicholas S. Kwok, Grade 7
Central Middle School, San Carlos School District

[R.I.P. Double Reeds: How to Delay the Decaying Rate of a Double Reed?](#)

Toxicology, Third Place

Hunter C. Crawford-Shelmadine, Grade 12
Carlmont High School, Sequoia Union High School District

[How Byproducts Produced by Removal of Oxybenzone by Phytoremediation & Laccase/ABTS Beads Affect Morality of *D. magna*](#)

Special Awards

Cheryl Saban Self-Worth Foundation Scholar Prize – In recognition of the top project by a female scholar providing a positive impact to her community. One \$1,500 Senior Division award; one \$1,250 Junior Division award. Presented by the Cheryl Saban Self-Worth Foundation for Women and Girls.

Junior Division: [Georgia Hutchinson](#)

Director's Award for Most Innovative Alternative Energy Project – For the project that incorporates the most innovative alternative energy concept and usage. One \$100 Junior Division award in the Alternative Energy category. Presented by Bob Anderson, CSEF Director of External Awards.

Award: [Alexis MacAvoy](#)

SoCalBio R&D Scholar Awards – For outstanding research in the biosciences that promotes excellence and enables students to develop original and independent research projects. Five Honorable Mentions. Presented by the Southern California Biomedical Council (SoCalBio).

Honorable Mention: [Hunter C. Crawford-Shelmadine](#)

SPIE Optics and Photonics Recognition Awards – For the projects best demonstrating scientific research and engineering applications in optics, photonics, and related fields. Three Senior Division place awards of \$900, \$600, and \$500, and three Junior Division place awards of \$250, \$150, and \$100. Presented by SPIE, the International Society for Optics and Photonics.

First Place: [Sina S. Kassayan](#)

UCLA Brain Research Institute Awards – For research achievement, innovation, and interpretation in any area related to the brain in health or sickness. Three place awards in each division of \$250, \$100, and \$50. Presented by the UCLA Brain Research Institute (BRI).

Second Place: [Iliana Close and Keira Swei](#)

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The San Mateo County Office of Education is committed to ensuring excellence and equity in education by inspiring students, investing in teachers, invigorating leaders and involving communities.