2018 SAC STEM FAIR

Congratulations to our 2018 Sacramento Regional STEM Fair Winners!

Category Awards

APPLIED ENGINEERING

Middle School

Honorable Mention
Marco Huang
What do Isaac Newton and Mindstorms Robot have in common?
Elizabeth Pinkerton Middle School

Fifth Place
Luke Dolley
Which wheel will wheel you furthest
E.V. Cain Charter Middle School

Fourth Place
Ryan Lee
Research and Analysis of the Concept of a Perpetual Motion Machine
Elizabeth Pinkerton Middle School

Third Place
Brook Abildgaard
Fighting Floods
Our Lady of the Assumption

Second Place
Meisum Naveed & Nialani Plaza
Ultrasonic Cane
California Middle School

Category Awards

APPLIED ENGINEERING
Middle School

First Place
Grace Hanson
Testing Building Designs with a Wind Tunnel
Brookfield Middle School

High School

Honorable Mention
Keir Keenan & Yehya Albakri
Portable Electronic Transportation System (PETS)
Mira Loma High School

Third Place
Mallory Snarr
The Glam Fan: The Mental Health of Cancer Patients
River City High School

Second Place
Rahul Sharma
Using Induction to Charge Pacemakers eliminating the need for Surgery
James Logan High School

Category Awards

APPLIED ENGINEERING
High School

First Place
Guadalupe Bernal
Deep Learning Based Collision Avoidance Algorithm for Mobile Robots in Pedestrian Environments
Folsom High School

BEHAVIORAL & SOCIAL SCIENCES
Middle School

Honorable Mention
Sidney Schelenberg
Can Your Sense of Taste Affect Your Sense of Smell
E.V. Cain Charter Middle School

Ella Gordon & Bryn Brothers
Can you Tell if Someone is Lying?
Our Lady of the Assumption

Fifth Place
Ashlyn Rand
Rabbit Color Coded Maze
E.V. Cain Charter Middle School

Category Awards

BEHAVIORAL & SOCIAL SCIENCES

Middle School

Fourth Place
Delaney Stetka
The effects of different Proteins on physical activity
E.V. Cain Charter Middle School

Third Place
Valentino Arrostuto
The Effect of Age on the Eyes Ability to Adjust to Darkness
E.V. Cain Charter Middle School

Second Place
Leah Booth
The effects of background noise to auditory perception
E.V. Cain Charter Middle School

First Place
Joice Schauer
Do You Remember More Words When Writing With Your Dominant Hand or Non Dominant Hand?
E.V. Cain Charter Middle School

Category Awards

BEHAVIORAL & SOCIAL SCIENCES

High School

Honorable Mention
Catalina Avalos & Heather Nguyen
Influence of Food on Pain Sensitivity: Sweet or Salty
River City High School

Third Place
Chinmayi Balusu
Correlations between Factors of Depression
Vista Del Lago High School

Second Place
Shay N. Sharma
A novel intervention in the education of skin care protection and skin cancer knowledge in a high school
Franklin High School

First Place
Rhitishah Yuva Raju
Reducing Test Anxiety To Increase Academic Performance Through Novel Breathing Techniques and Digital Visualization
Mira Loma High School

Category Awards

BIOLOGY & HEALTH SCIENCES

Middle School

Honorable Mention
Sawyer Dalton
Does Citric Acid, vinegar, or Wine have an effect on Gram-positive and Gram-negative bacteria?
E.V. Cain Charter Middle School

Max Martine
How Does Microwave Radiation Affect Different Organisms?
Our Lady of the Assumption

Fifth Place
Sasha Long
Lick, Lick, Who Licks Cleanest?
E.V. Cain Charter Middle School

Fourth Place
Aiden Geil
What solution gets rid of bacteria the best?
E.V. Cain Charter Middle School

Third Place
Jamison Celio
How much time of exposure to ultraviolet rays will kill E. coli?
E.V. Cain Charter Middle School

Category Awards

BIOLOGY & HEALTH SCIENCES

Middle School

Second Place
Will Myatt
How do fertilizers affect microorganisms that live in water?
W.E. Mitchell Middle School

First Place
Ashlyn Roice & Alicia Roice
Radical Terminators
Altamont Elementary School

High School

Honorable Mention
Sabrina Yarzada
Henna as an Antifungal
School of Engineering and Sciences

Third Place
Pavithra Sundaravaradan
Cheaper Cancer Detection: Using the Alpha Fetoprotein
Mira Loma High School

Second Place
Karen Lee
Bacteria in Your Cafeteria: Bacterial Growth in Different Types of Meat
River City High School

Category Awards

BIOLOGY & HEALTH SCIENCES

High School

First Place

Abhijith Vemulapati

Analysis of the total RNA profile of grapevines affected by a lethal necrotic reaction for the detection of potential viral agents

Davis Senior High School

CHEMISTRY

Middle School

Honorable Mention

Jacqueline Prawira

Bio.fiber.plastic: The Effect of Lignocellulosic Fiber in Enhancing The Formation and Tensile Strength of Rice Bioplastic

Altamont Elementary School

Ryan Laurim, Ryan Lee & Tristan Canaan

What Drinks have the Most Electrolytes?

Our Lady of the Assumption

Fifth Place

Braden Brazil

Chlorine Pools vs. Saltwater Pools: Which has more Bacteria

E.V. Cain Charter Middle School

Category Awards

CHEMISTRY
Middle School

Fourth Place
Allyson Mickel
Which percent of Isopropyl or Ethanol makes the biggest combustion
E.V. Cain Charter Middle School

Third Place
Dannika Sorenson & Kiley Cole
What fabrics are the most fire-resistant?
W.E. Mitchell Middle School

Second Place
Hadley Reed
The Effect of Green detergent and Tide on yeast cell health
E.V. Cain Charter Middle School

First Place
Kaiya Hatashita
Reaction Times: Minty or Mild?
E.V. Cain Charter Middle School

Category Awards

CHEMISTRY
High School

Second Place
Kayla Page
Soot Hurts
River City High School

First Place
Achyutha Kodavatikanti & Advait Thaploo
Saving Lives with Viruses: How Bacteriophages Can Kill Harmful E. coli Bacteria
Mira Loma High School

COMPUTER SCIENCE & TECHNOLOGY
Middle School

Fifth Place
Khadeeja Baqui
Creating a Program to Help COPD Patients Avoid Hospitalization
Al Arqam Islamic School

Fourth Place
Srinidhi Chandrasekaran
Understanding Healthcare Trends through Machine Learning Modeling
Sutter Middle School (Folsom)

Category Awards

COMPUTER SCIENCE & TECHNOLOGY

Middle School

Third Place
Ameya Dhumal & Archit Jahagirdar
Smart Fitness Device for Child Obesity
Sutter Middle School (Folsom)

Second Place
Anna Soares
Watts up in your house?
E.V. Cain Charter Middle School

First Place
Holden Robertson
Which Cryptography Cipher is the Most Difficult for a Computer to decipher
E.V. Cain Charter Middle School

High School

Honorable Mention
Ian Ng
Computers Distinguishing Music: A Comparison of Machine Learning Algorithms Evaluating Musical Attributes to Determine Song Genres
Vista Del Lago High School

Category Awards

COMPUTER SCIENCE & TECHNOLOGY
High School

Third Place

Anish Singhani

SAE Level 5-Conformant Self-Driving Car Using Deep Learning and Path Planning Algorithms without Requiring LIDAR

Monte Vista High School

Second Place

Albert Qin & Samyak Surti

A Machine Learning Based Approach to Decrease Lung Cancer Malignancy Detection Threshold

Mira Loma & Vista Del Lago High Schools

First Place

Patrick Song

Early Classification of Alzheimer's Disease Using Machine Learning

Davis Senior High School

PHYSICAL SCIENCES & MATH
Middle School

Honorable Mention

Harper Winans

Parachute Party

E.V. Cain Charter Middle School

Category Awards

PHYSICAL SCIENCES & MATH

Middle School

Honorable Mention
Jeret Skraber
The Battery Life of a Drone
E.V. Cain Charter Middle School

Fifth Place
Jacob Parulan
Hydro-Powered Water-Wheel
Our Lady of the Assumption

Fourth Place
Jade Masangya
Surface Tension Test: How Substances Added to Water affect is Surface Tension and the ability of objects to float on it?
Sutter Middle School (Folsom)

Third Place
Eliah Reeves
Changing the Electrical Resistance of Water
W.E. Mitchell Middle School

Second Place
Emma Kropf
Electric Waters
Our Lady of the Assumption

Category Awards

PHYSICAL SCIENCES & MATH

Middle School

First Place

Ella Johnson

Do flame resistant baby clothes lose their effectiveness after repeated washing?

E.V. Cain Charter Middle School

High School

Honorable Mention

Matthew Rogers Martel

Pendular-waves Part I: Pendular-waves in Quantized Systems and their Possible Role in Matter's Wave

Rio Americano High School

Third Place

Sydney Walthall

A New Angle on Solar Power

C.K. McClatchy High School

Second Place

Ameya Naik

Determining the Effect of Ground Terrain on Sacramento Valley Supercells

Mira Loma High School

Category Awards

PHYSICAL SCIENCES & MATH

High School

First Place

Gautam Pradeep

Determination of the Orbital Elements of Near-Earth Asteroid 1999 LO28 Using the Method of Gauss

Mira Loma High School

SUSTAINABLE TECHNOLOGY

Middle School

Honorable Mention

Seth Baker

What Type of Lubricant Work's Best On Wheels?

E.V. Cain Charter Middle School

Amelia Totten

Modeling the Global Conveyor Belt in Your Kitchen

Our Lady of the Assumption

Fifth Place

Ryan Kratzschmar

Which Wind Turbine is More Efficient at Producing Electricity Horizontal Axis Wind Turbines or Vertical Axis Wind Turbines?

E.V. Cain Charter Middle School

Category Awards

SUSTAINABLE TECHNOLOGY
Middle School

Fourth Place
Dash Tebbs
Does tire width influence speed on a bike?
E.V. Cain Charter Middle School

Third Place
Evan Fuller
What's the best position for an accelerator weight on a skateboard?
E.V. Cain Charter Middle School

Second Place
Yahvin Gali
Hydro Energy Sphere - Bouyless Biomimetic Versatile Hydrokinetic Energy Harvester using Electromagnetic Induction (Novel Design)
California Connections Academy

First Place
Jordan Prawira
Stacked - A - Wind: Developing Vertical-Axis Wind Turbine for Various Wind Speed
Altamont Elementary School

Category Awards

SUSTAINABLE TECHNOLOGY
High School

Honorable Mention
Nishita Bagaria, Prianka Venkatesh & Mai-Linh Nguyen
Biofuel: Turning Grease Into Gas
Vista Del Lago High School

Third Place
Sabrina Terando & Kim Pham
Food Waste to Ethanol
Vista Del Lago High School

Second Place
Henry Tsai
Modular Solar-Powered Water Pumps
Folsom High School

First Place
Nitya Kotha
Artificial Pancreas for continuous high blood glucose levels
Folsom High School

Grand Prize Winners

Third Place
Patrick Song
Early Classification of Alzheimer's Disease Using Machine Learning
Davis Senior High School

Second Place
Gautam Pradeep
Determination of the Orbital Elements of Near-Earth Asteroid 1999 LO28 Using the Method of Gauss
Mira Loma High School

First Place
Rhitishah Yuva Raju
Reducing Test Anxiety To Increase Academic Performance Through Novel Breathing Techniques and Digital Visualization
Mira Loma High School

Congratulations again to all our Winners!

All participating students developed AMAZING projects for our judges to view.

You have ALL accomplished so much.
We hope to see you ALL in 2019!

Northern California
STEM
Education Foundation
Science • Technology • Engineering • Math