

Plantronics – Santa Cruz County Science & Engineering Fair

Awards Ceremony
March 12, 2019



California Association of Professional Scientists (CAPS)

537 Do Environmentally Friendly Dish Soaps Clean Oil Off Feathers as Well as Dawn?
Luke Tanguay, Pacific Collegiate Charter

American Meteorological Society

716 Developing a Submarine Freefall Chamber for Microgravity Experiments
Ryan Beam, Scotts Valley HS



ASM Materials

466 The Flexibility of Casein Plastic
Sarah Stockmanns, Holy Cross





Developmental Learning Solutions

Everyone has the innate ability to learn, and the inherent right to the pursuit of knowledge.™

440 What's Your Motivation
Natali Blanco, Good Shepherd Catholic

719 Understanding a student's test performance under different temperature
conditions
Daisy Serna, Adriana Hernandez, and Noely Escalante
Soquel HS

California Botanical Society

1st Place Elementary

117 The Effects of Wildfire on Seed Germination of Native and Invasive Plants of California's Monterey Pine Forests
Jonica Wilson, Pacific ES K-6



1st Place Junior

402 Do Plants Absorb Microplastics?
Ruby Evans, San Lorenzo Valley MS

2nd Place Junior

540 Which Trees Take the Longest to Burn
Eva Ramirez-Truse, Santa Cruz Children's School

1st Place Senior

714 Water Percolation in Relation to the Quantity of French Broom in the SLV Watershed
Katherine McCormick, Helen Schafer-Dews,
San Lorenzo Valley HS
Ruby Howard, Coast Redwood HS

2nd Place Senior

717 Trails, Soil, and SOD
Trevor Cambron, Natalie Owens,
San Lorenzo Valley HS

Ecology Action



- 181 At The End of Our Rope
Isla Rosenthal, De Laveaga ES
Natasha Ackerstein, Bay View ES
Sivanna Sommerville, Bay View ES
- 232 Is there plastic in soil ?, Diana Arguello, Yartz
Jazmin Fernandez, Calabasas ES
- 528 Going Undercover To Save a Precious Resource
Jack Jensen, Gateway ES
- 529 Has Water Quality Improved at Cowell's Beach
Genevieve McNulty, Pacific Collegiate Charter
- 530 Stay Cool Under Fire
Abigail Goodman, Pacific Collegiate Charter
- 531 Two problems with one brick
Lyra Alers, Scotts Valley MS

Gem & Mineral Society



- 225 Rocks: The Hard Facts
Jack Cash, Soquel ES
- 228 Which beach has the most iron sand?
Amadeo Dorsey, Westlake ES
- 713 Rock Armor, or Rubble? Preventing Coastal Erosion
Jessica Fairlie, Vivian Feldheim, Santa Cruz HS

Genius Olympiad



- 401 Warming Seas, Warmer Seals: How
Different Seal Species Thermoregulate
Sae Ackerstein, Mission Hill MS
- 713 Rock Armor, or Rubble? Preventing Coastal Erosion
Jessica Fairlie, Vivian Feldheim, Santa Cruz HS

Healthy Oceans, Healthy Planet

181 At The End of Our Rope
Isla Rosenthal, De Laveaga ES
Natasha Ackerstein, Bay View ES
Sivanna Sommerville, Bay View ES



228 Which beach has the most iron sand?
Amadeo Dorsey, Westlake ES

533 Bacteria Blasters
Brendan Watson, Good Shepherd Catholic

537 Do Environmentally Friendly Dish Soaps Clean
Oil Off Feathers as Well as Dawn?
Luke Tanguay, Pacific Collegiate Charter

703 Something's Fishy
Emma Schaefer-Whittall, Scotts Valley HS

IEEE

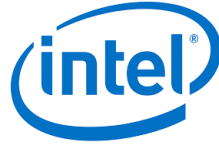


201 Electronic Flow
Aditya Menon, Mountain Elementary

501 Dancing, Obstacle Avoiding, and Road Following
Self-Driving Car
Daniel Alivov, Diana Alivov, Scotts Valley MS

605 Laser
Marcus Hill, Branciforte MS

Intel Excellence in Computer Science



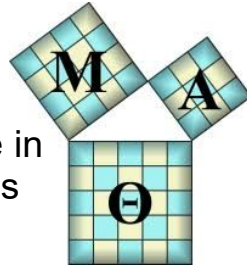
706 Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection
Elias Gilbert, Santa Cruz HS

U.S. Metric Association



201 Electronic Flow
Aditya Menon, Mountain Elementary

Mu Alpha Theta



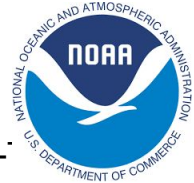
706 Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection
Elias Gilbert, Santa Cruz HS

NASA Earth



702 RNA Regulation: Identifying and Preventing AMP Depurination in Early Life RNA Polymerization
Michelle Nazareth, Georgiana Bruce Kirby Prep

NOAA



711 Climate Change's Dangerous Influence On Lyme Disease
Tessa Marks, Mackenzie Swenson-Harbor HS

SCWIBLES

Authentic Inquiry



- 117 The Effects of Wildfire on Seed Germination of Native and Invasive Plants of California's Monterey Pine Forests
Jonica Wilson, Pacific ES
- 475 The Effect of Suspension on Jumping a Mountain Bike
Joseph Pelz, Gateway ES

Stockholm Water

- 712 Effects of the Seasons on the Abundance of Sand Crabs
Ming Triulzi, Simone Sutton, San Lorenzo Valley HS
- 714 Water Percolation in Relation to the Quantity of French Broom in the SLV Watershed
Katherine McCormick, San Lorenzo Valley HS
Helen Leslie Schafer-Dews, San Lorenzo Valley HS
Ruby Howard, Coast Redwood HS



UCSC Psychology Department

125 Are You Distracted?

Brady Clark, Ellawyn Strudley, Trianna Luke,
San Lorenzo Valley ES

429 Factors Affecting California Science and Engineering Fair Results

Rinoa Oliver, Georgiana Bruce Kirby Prep

431 Give and take

Emily Ritter, Good Shepherd Catholic



Women Geoscientists



536 Clean Or Not?

Ellie Raffo, Good Shepherd Catholic

Yale Science & Engineering



705 Colorimetric Detection of Toxic Heavy Metal Ions

by Gold Nanoparticles

Alan Chen, Santa Cruz HS

Ricoh

RICOH
imagine. change.

277 "Are All Yeast the Same?"

Josie Sanford, Bonny Doon ES



The Plantronics and Santa Cruz County Science and Engineering Fair

plantronics



Catelyn Orsini & Helen Wight
March 12th, 2019

Junior Pathfinder Award

- Self-starter, takes initiatives and risks
- Innovative and agile, demonstrates problem-solving skills
- Models Plantronics values of teamwork, curiosity and encouragement
- Aligns with the Plantronics vision:

A world where you can listen, communicate, dream and create wherever you are

Junior Pathfinder awards

134 Do Cheap Chips Cut It **Robert Stanford**

176 Mag-Lev Train **Asher Kohn**

309 To Infinity and Beyond **Everett Orsini**

429 Factors Affecting California Science and Engineering Results **Rinoa Oliver**

501 Dancing, Obstacle Avoiding & Road Following Self-Driving Car **Daniel Alivov**

501 Dancing, Obstacle Avoiding & Road Following Self-Driving Car **Diane Alivov**

580 Air-Strike – Assault of the Airborne Microbes **Leo Stiles-Strudley**

604 How proximity to a Surface Affects Lift of an Aircraft **Maxwell Gross**

Junior Pathfinder awards

700 What the Fungus is Happening to the Sea Stars **Katelyn Lozier**

700 What the Fungus is Happening to the Sea Stars **Christopher Anderson**

700 What the Fungus is Happening to the Sea Stars **Celeste Robinson**

702 RNA Regulation: Identifying and Preventing AMP Depurination in Early Life RNA Polymerization **Michelle Nazareth**

706 Defining the Function of a Curve in an image with Graphical Analysis and Model Selection **Elias Gilbert**

707 Predicting the Presence of Pneumonia in Chest X-rays using Deep Learning with Convolutional Neural Networks **Andrew Nazareth**

Junior Pathfinder awards

710 Exploration of French Broom Control and its Effect on the Santa Cruz Sandhills Environment **Damian Goodenough**

710 Exploration of French Broom Control and its Effect on the Santa Cruz Sandhills Environment **Salvatore Deguara**

713 Rock Armor or Rubble? Preventing Coastal Erosion **Jessica Fairlie**

713 Rock Armor or Rubble? Preventing Coastal Erosion **Vivian Feldheim**

Animal Sciences

1st Place

102 Does a Horse's Age Affect it's Risk of Sand Colic?

Cassia Collins, Mar Vista ES

2nd Place

106 Where to find Tardigrades?

Quincy Heady, Pacific ES

118 Where are the Birds?

Jarah Holmes, Westlake ES

3rd Place

104 They're Not Invited! Can mice really get the non-toxic message? Testing scents for repelling mice

Ollin Bates, Boulder Creek ES

Behavioral Sciences

1st Place

135 Memory Memory Memory
Dahlia Cook, Nina Schmidt, Spring Hill
Advanced ES

2nd Place

125 Are You Distracted?
Brady Clark, Ellawyn Strudley, Trianna
Luke, San Lorenzo Valley ES

3rd Place

131 Effect of Videogame and Maze Experience on
Minecraft Maze Performance
Jacob Harper, Isaac Seymour, Santa Cruz
Gardens ES

Merit

126 Can Memories Be Altered?
Ila Bonney, Soquel ES

128 Does Age Affect Short Term Visual Memory?
Maya Weinberg, Westlake ES

Chemistry

1st Place

155 Is Your Alka-Seltzer Not Working? Try Changing the Temperature of Your Water
Nathanael Marcus, Santa Cruz Gardens ES

2nd Place

153 Does Coca Cola, a delicious drink, really clean pennies, and how?
Gianna Fanara, Leila Jones,
Brook Knoll ES

3rd Place

154 Energy in Hot
Zoe Ammann, San Lorenzo Valley ES

Merit

162 Squishy Bouncy Egg Experiment
Sid Martin, Westlake ES

167 What Colors Make Black?
Sophia Hoogner, Boulder Creek ES

Energy, Transport, Materials

1st Place

175 Can I build a Model Wind Turbine That
Can Light a Light Bulb or Charge a 1.5V
Battery Out of Recycled Household
Materials?
Alexander Lee, Westlake ES

2nd Place

181 At The End of Our Rope
Isla Rosenthal, De Laveaga ES
Natasha Ackerstein, Bay View ES
Sivanna Sommerville, Bay View ES

3rd Place

184 Testing the Conductivity of Liquids
Isaac Abrams, Westlake ES

Merit

186 Brake!!

Dane Morrison, Robert Thompson,
Soquel ES

Engineering Elec & Mech, Math

1st Place

204 Quiet Box

Avery Schromm, Happy Valley Elementary

2nd Place

200 Collapse-o-Cane

Jonah Guyer, Happy Valley Elementary

3rd Place

201 Electronic Flow

Aditya Menon, Mountain Elementary

Merit

210 Tongue Depressor Bridges "Bridging the Gap"

Maverick Heath, Santa Cruz Gardens ES

211 Weight or Break!

Poppy Owens, San Lorenzo Valley ES

212 What Conducts?

Nico Palandrani, Mar Vista ES

Environmental Sci & Mgt, Earth Sci

1st Place

225 Rocks: The Hard Facts
Jack Cash, Soquel ES

2nd Place

229 Tap Water or Creek Water?
Julia Crossen, Elena Margolise, Alianza
Charter

3rd Place

230 No Water, No Life!
Kalea Iuliano, Twin Lakes Christian

232 Is there plastic in soil ?
Diana Arguello, Yaritza Jazmin Fernandez,
Calabasas ES

Merit

228 Which beach has the most iron sand?
Amadeo Dorsey, Westlake ES

Invention

1st Place

204 Quiet Box

Avery Schromm, Happy Valley Elementary

2nd Place

200 Collapse-o-Cane

Jonah Guyer, Happy Valley Elementary

3rd Place

326 Feeter Heater

Hailey Ritter, Good Shepherd Catholic

328 Handy Dandy Tie

Stella Cucuzza, Good Shepherd Catholic

Merit

330 Pencil Grips

Oliver Willet, Happy Valley Elementary

Medicine & Health

1st Place

259 The Nose Knows!

Rose Lockwood, Twin Lakes Christian

2nd Place

251 Can you Hear It?

Vikram Sathish, Brook Knoll ES

252 Hertz Hearing

Olivia Smith, De Laveaga ES

3rd Place

255 Lift It!

Angel Castro, Frankie Perez, Soquel ES

Microbiology, Biochemistry, Cell Bio

1st Place

277 Are All Yeast the Same?

Josie Sanford, Bonny Doon ES

2nd Place

278 Bottled Water Wars

Ella Porter, Twin Lakes Christian

3rd Place

281 Which Works Better: SODIS or Boiling?

Natalia Vowles, Rio Del Mar ES

Merit

275 Which Fruit Will Mold the Quickest

Chloe Ryssemus, Boulder Creek ES

280 Which Mouth Is Dirtier?

Damian Spracklen, Boulder Creek ES

Physics, Astronomy

1st Place

305 Launch angle of a projectile vs. distance
Jackson Haddad, San Lorenzo Valley ES

2nd Place

310 How is global warming affected by different
types of land cover?
Lincoln Barnard, Soquel ES

3rd Place

301 Soaring High Part 2
Arnold ("Griffin") Steely, Ocean Grove

313 Learn Don't Burn: How to Protect
Your Skin From Ultraviolet Rays
Lovela Jones, Tamar Deutsch,
De Laveaga ES

Plant Science

1st Place

108 Grow Away From Smoke
Milan Garley, Twin Lakes Christian

2nd Place

117 The Effects of Wildfire on Seed Germination of
Native and Invasive Plants of California's
Monterey Pine Forests
Jonica Wilson, Pacific ES

3rd Place

107 Cabbage Patch Clones
Lincoln Verinsky, Brook Knoll ES

Best of Show in Elementary

2nd Place

108 Grow away from smoke

Milan Garley, Twin Lakes Christian

Best of Show in Elementary

1st Place

175 Can I build a Model Wind Turbine That Can Light a Light Bulb or Charge a 1.5V Battery Out of Recycled Household Materials?

Alexander Lee, Westlake ES

2nd Place

108 Grow away from smoke

Milan Garley, Twin Lakes Christian

Animal Sciences

1st Place

401 Warming Seas, Warmer Seals: How Different
Seal Species Thermoregulate
Sae Ackerstein, Mission Hill MS

2nd Place

408 Sea Star Density: pH verses Tide Level
Lenora Freeman, Baymonte Christian

3rd Place

409 The Effect of Nitrates on Sand Crab
Population
Eva Wellise, Gateway

Behavioral Sciences

1st Place

429 Factors Affecting California Science and Engineering Fair Results
Rinoa Oliver, Georgiana Bruce Kirby Prep.

2nd Place

431 Give and take
Emily Ritter, Good Shepherd Catholic

3rd Place

425 Total Recall
Lydia Richards, Twin Lakes Christian

Merit

427 Do the Number of Elections Signs Predict Who Will Win?
Brooke Andrews, Quail Hollow Integrated Arts

438 Sense the Emotions
Kaykhine Htay, Julia Paganelli, Mission Hill MS

439 The Tale Tell Heart
Claudia Kehoe, Salesian ES & JH

Chemistry

1st Place

466 The Flexibility of Casein Plastic
Sarah Stockmanns, Holy Cross

2nd Place

464 Taming Coulomb
Ingrid Feague, Spring Hill Advanced ES

3rd Place

455 Double
Evelyn Schilling, Brendan Byrne, Good
Shepherd Catholic

456 H₂O Science: How to Generate Hydrogen
From Water?
Maxwell Chen, Georgiana Bruce Kirby Prep.

Merit

454 DYE DOWN
Maizie Besk, Twin Lakes Christian

Energy, Transport, Materials

1st Place

477 A Heating Pad that Stays Warm
Jasmine VanRenselaar, Ocean Grove

2nd Place

479 Is It Possible To Build A Fireproof House?
Landon Fernald, Baymonte Christian

3rd Place

475 The Effect of Suspension on Jumping a
Mountain Bike
Joseph Pelz, Gateway ES

Engineering Elec & Mech, Math

1st Place

501 Dancing, Obstacle Avoiding, and Road Following Self-Driving Car
Daniel Alivov, Diana Alivov,
Scotts Valley MS

2nd Place

504 Hydraulic Powered Robotic Arm
Vivienne Barrett, Pacific Collegiate Charter

3rd Place

514 Fallen Arches: The Surprising Strength of Eggshells
Nicholas Saldavia, Holy Cross

Merit

508 Shock Fluids
Griffin Short, Salesian ES & JH

510 Team America Rocket Challenge
Sky Weir, Alternative Family Education

513 Structures vs. Hurricanes, Tsunamis and Earthquakes
Lily Anderson, Gateway ES

Environmental Sci & Mgt, Earth Sci

1st Place

531 Two problems with one brick
Lyra Alers, Scotts Valley MS

2nd Place

530 Stay Cool Under Fire
Abigail Goodman, Pacific Collegiate Charter

3rd Place

528 Going Undercover To Save a Precious
Resource
Jack Jensen, Gateway ES

537 Do Environmentally Friendly Dish Soaps Clean
Oil Off Feathers as Well as Dawn?
Luke Tanguay, Pacific Collegiate Charter

Merit

533 Bacteria Blasters
Brendan Watson, Good Shepherd Catholic

535 Can Coho Salmon spawn in Majors Creek?
Orion Pappas, Bonny Doon ES

536 Clean Or Not?
Ellie Raffo, Good Shepherd Catholic

538 Is the Drainage Pipe at Cowell's Beach a Source of
Pollution
Edward (Jack) McNulty, Bonny Doon ES

Medicine & Health

1st Place

553 Does Eye Dominance Affect the Accuracy of a Soccer Shot
Jocelyn Travers, Holy Cross

3rd Place

559 What is the Depth of Human Visual Perception
Jay Fishler, Scotts Valley MS

2nd Place

557 Starch Struck: the Effect of Dietary Amylase on Starch Digestion
Flynn Rorty, Mission Hill MS

Microbiology, Biochemistry, Cell Bio

1st Place

575 Green Synthesis of Silver Nanoparticles
Using Asparagus Extract and Their Use as
Antibacterial Agent
Konish Bhattacharya, Gateway ES

3rd Place

579 1 second, 1 minute, 1 hour, 1 day Does it really
matter?
Faith Vokos, Good Shepherd Catholic

587 What Cleans Your Hands The Best
Junaid Shafi, Pacific Collegiate Charter

2nd Place

584 Phytoplankton Growth: Are Terrestrial
Fertilizers the Answer?
Brett Swertfager, Mar Vista ES

Merit

582 Egg Substitutes
Natalie Lo, Holy Cross

Physics, Astronomy

1st Place

604 How Proximity to a Surface Affects Lift of an Aircraft
Maxwell Gross, Pacific Collegiate Charter

607 The Affect of Different Materials on Particle Decay From a Radioactive Source
Jared Henderson, Gateway ES

2nd Place

602 How do various types of table tennis balls differ in bounce height?
Kayla Goodwin, Bonny Doon ES

Merit

605 Laser
Marcus Hill, Branciforte MS

Plant Science

1st Place

402 Do Plants Absorb Microplastics?
Ruby Evans, San Lorenzo Valley MS

2nd Place

410 Using Calcium to Combat Acid Rain!?
Gabriella Dow, Mar Vista ES

3rd Place

405 Shrooms and Trees - A study of which tree species hosts the highest density of the mushroom boletus edulis in the Santa Cruz area
Jasper Garrett, Pacific Collegiate Charter

Merit

407 Is Grey the Way
Jennifer Patz, Good Shepherd Catholic

Best of Show in Junior

2nd Place

575 Green Synthesis of Silver Nanoparticles Using Asparagus Extract and Their Use as Antibacterial Agent
Konish Bhattacharya, Gateway ES

Best of Show in Junior

1st Place

429 Factors Affecting California Science and Engineering Fair
Results

Rinoa Oliver, Georgiana Bruce Kirby Prep

2nd Place

575 Green Synthesis of Silver Nanoparticles Using Asparagus
Extract and Their Use as Antibacterial Agent

Konish Bhattacharya, Gateway ES

State Prep Meeting
Tuesday, 3/19, 6-8:00
@ County Office of Education

All students advancing to the
California State Science &
Engineering Fair are invited.

You have time to get more
data, add new graphs, and
change how you present
your findings before April 29.



**Transform from
judge to coach**



As a judge, you noticed how projects could be even better.

Share what you can on Feedback Forms to students.

And join us for State Prep!

We invite judges to rejoin us for an evening to advise students who qualify for the California State Science & Engineering Fair. Students will have time to improve their projects, so you can transform from *Judge* to *Coach*. Help:

- > focus their poster,
- > clarify their presentation,
- > improve their charts,
- > plan to get more data,...

Preparation for State Science & Engineering Fair

6:00-8:00 PM, Tuesday, March 19, 2019

Santa Cruz County Office of Education, 400 Encinal St, Santa Cruz

Questions: miguelfaznar@gmail.com (831) 566-1980

Juniors to State Science & Engineering Fair

Sae **Ackerstein** Warming Seas, Warmer Seals: How Different Seal Species Thermoregulate

Lyra **Alers** Two problems with one brick

Daniel **Alivov** Dancing, Obstacle Avoiding, and Road Following Self-Driving Car

Diana **Alivov** Dancing, Obstacle Avoiding, and Road Following Self-Driving Car

Vivienne **Barrett** Hydraulic Powered Robotic Arm

Konish **Bhattacharya** Green Synthesis of Silver Nanoparticles Using Asparagus Extract and Their Use as Antibacterial Agent

Brendan **Byrne** Double

Maxwell **Chen** H₂O Science: How to Generate Hydrogen From Water?

Gabriella **Dow** Using Calcium to Combat Acid Rain!?

Ruby **Evans** Do Plants Absorb Microplastics?

Ingrid **Feague** Taming Coulomb

Landon **Fernald** Is It Possible To Build A Fireproof House?

Lenora **Freeman** Sea Star Density: pH verses Tide Level

Abigail **Goodman** Stay Cool Under Fire

Kayla **Goodwin** How do various types of table tennis balls differ in bounce height?

Maxwell **Gross** How Proximity to a Surface Affects Lift of an Aircraft

Jared **Henderson** The Affect of Different Materials on Particle Decay From a Radioactive Source

Jack **Jensen** Going Undercover To Save a Precious Resource

Rinoa **Oliver** Factors Affecting California Science and Engineering Fair Results

Joseph **Pelz** The Effect of Suspension on Jumping a Mountain Bike

Lydia **Richards** Total Recall

Emily **Ritter** Give and take

Flynn **Rorty** Starch Struck: the Effect of Dietary Amylase on Starch Digestion

Nicholas **Saldavia** Fallen Arches: The Surprising Strength of Eggshells

Evelyn **Schilling** Double

Griffin **Short** Shock fluids

Sarah **Stockmanns** The Flexibility of Casein Plastic

Brett **Swertfager** Phytoplankton Growth: Are Terrestrial Fertilizers the Answer?

Luke **Tanguay** Do Environmentally Friendly Dish Soaps Clean Oil Off Feathers as Well as Dawn?

Jasmine **VanRenselaar** A Heating Pad that Stays Warm

Seniors to State Science & Engineering Fair

Christopher **Anderson** What the Fungus is Happening to the Sea Stars?

Trevor **Cambron** Trails, Soil, and SOD

Alan **Chen** Colorimetric Detection of Toxic Heavy Metal Ions by Gold Nanoparticles

Salvatore **Deguara** Exploration of French Broom Control and its Effect on the Santa Cruz Sandhills Environment

Jessica **Fairlie** Rock Armor, or Rubble? Preventing Coastal Erosion

Vivian **Feldheim** Rock Armor, or Rubble? Preventing Coastal Erosion

Elias **Gilbert** Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection

Damian **Goodenough** Exploration of French Broom Control and its Effect on the Santa Cruz Sandhills Environment

Heather **Lee** Supporting the Notion that Nanopipette Injection is an Accurate and Reliable Method for Multiplexed Genetic Editing

Katelyn **Lozier** What the Fungus is Happening to the Sea Stars?

Tessa **Marks** Climate Change's Dangerous Influence On Lyme Disease

Andrew **Nazareth** Predicting the Presence of Pneumonia in Chest X-rays using Deep Learning with Convolutional Neural Networks

Michelle **Nazareth** RNA Regulation: Identifying and Preventing AMP Depurination in Early Life RNA Polymerization

Natalie **Owens** Trails, Soil, and SOD

Dilan **Patel** Supporting the Notion that Nanopipette Injection is an Accurate and Reliable Method for Multiplexed Genetic Editing

Celeste **Robinson** What the Fungus is Happening to the Sea Stars?

Phoenix **Rumbaugh** Yucca versus a Cyanobacteria

Emma **Schaefer-Whittall** Something's Fishy

Simone **Sutton** Effects of the Seasons on the Abundance of Sand Crabs

Mackenzie **Swenson-Thole** Climate Change's Dangerous Influence On Lyme Disease

Ming **Triulzi** Effects of the Seasons on the Abundance of Sand Crabs

Isaac **Wallace-Menge** Supporting the Notion that Nanopipette Injection is an Accurate and Reliable Method for Multiplexed Genetic Editing

Senior Division

Merit

700 What the Fungus is Happening to the Sea Stars
Katelyn Lozier, Christopher Anderson, Celeste
Robinson, San Lorenzo Valley HS

703 Something's Fishy
Emma Schaefer-Whittall, Scotts Valley HS

705 Colorimetric Detection of Toxic Heavy Metal Ions
by Gold Nanoparticles
Alan Chen, Santa Cruz HS

710 Exploration of French Broom Control and its
Effect on the Santa Cruz Sandhills Environment
Damian Goodenough, Salvatore Deguara, San
Lorenzo Valley HS

711 Climate Change's Dangerous Influence On Lyme
Disease
Tessa Marks, Mackenzie Swenson-Thole, Harbor HS

712 Effects of the Seasons on the Abundance of Sand
Crabs
Ming Triulzi, Simone Sutton, San Lorenzo Valley HS

713 Rock Armor, or Rubble? Preventing Coastal Erosion
Jessica Fairlie, Vivian Feldheim, Santa Cruz HS

716 Developing a Submarine Freefall Chamber for
Microgravity Experiments
Ryan Beam, Scotts Valley HS

Senior Division

3rd Place

706 Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection

Elias Gilbert, Santa Cruz HS

707 Predicting the Presence of Pneumonia in Chest X-rays using Deep Learning with Convolutional Neural Networks

Andrew Nazareth, Georgiana Bruce Kirby Prep

Senior Division

3rd Place

706 Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection

Elias Gilbert, Santa Cruz HS

707 Predicting the Presence of Pneumonia in Chest X-rays using Deep Learning with Convolutional Neural Networks

Andrew Nazareth, Georgiana Bruce Kirby Prep

2nd Place

717 Trails, Soil, and SOD

Trevor Cambron, Natalie Owens San Lorenzo Valley HS

Senior Division

1st Place

702 RNA Regulation: Identifying & Preventing AMP Depurination in Early Life RNA Polymerization
Michelle Nazareth, Georgiana Bruce
Kirby Prep

2nd Place

717 Trails, Soil, and SOD
Trevor Cambron, Natalie Owens
San Lorenzo Valley HS

3rd Place

706 Defining the Function of a Curve in an Image with Graphical Analysis and Model Selection
Elias Gilbert, Santa Cruz HS

707 Predicting the Presence of Pneumonia in Chest X-rays using Deep Learning with Convolutional Neural Networks
Andrew Nazareth, Georgiana Bruce
Kirby Prep

International Science & Engineering Fair (ISEF)

702 RNA Regulation: Identifying and Preventing AMP
Depurination in Early Life RNA Polymerization
Michelle Nazareth, Georgiana Bruce Kirby Prep

717 Trails, Soil, and SOD
Trevor Cambron, Natalie Owens, San Lorenzo Valley HS