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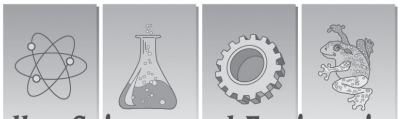


Tri-Valley Science and Engineering Fair

Welcome, students, to the 15th Annual Tri-Valley Science and Engineering Fair (TVSEF). You are one of 413 students representing 262 projects. The goal of the TVSEF is to stimulate student interest and enthusiasm in science and engineering, while having fun at the same time. Over the years, the TVSEF has grown in size and prestige to become the premier school science competition in the Tri-Valley.

TVSEF is affiliated with the Intel International Science and Engineering Fair (Intel ISEF). The Intel ISEF brings together more than 1,600 students from more than 50 nations to compete for scholarships, tuition grants, and internships in the fields of science and engineering.

Last year, TVSEF Senior Division sweepstakes winners Rahul Doraiswami, Harikrishna Rallapalli, Evan O'Dorney, and teammates Brian Cambra and Bryan Lent represented the TVSEF at the Intel ISEF in San Jose, California.

Rahul Doraiswami, then a 11th grade student from Foothill High School in Pleasanton, won fourth place for his project entitled "Cancer Diagnosis Using Metabolic Fingerprint Analysis" in health and medical science division at the Intel ISEF.

Harikrishna Rallapalli, then a 12th grade student at Pleasanton's Amador Valley High School, participated at Intel with his project entitled "Low-Cost Polarization Based GFP Viewer." Hari was a TVSEF sweepstakes winner a total of three times during his high school career. Hari attends UC Davis and is majoring in Biomedical Engineering.

As a 11th grade student, Evan O'Dorney presented his project, "Continued Fraction Convergents and Linear Fractional Transformations." And as 12th grade students from Livermore's Granada High School, Brian Cambra and Bryan Lent competed at Intel with their project "Effects of Creatine Monohydrate on Mice."

Teammates Steven Wang and Paul Epperson won the Junior Division sweepstakes competition at TVSEF. Their project, "Creating an Energy Efficient Solar Powered Water Desalination Apparatus," took second place in the environmental engineering category at the 59th annual California State Science Fair in Los Angeles. Riley Eldredge, also a Junior sweepstakes TVSEF winner, competed at the Fair with his project, "What's On Your Roof? A Study of Reflected Emissivity and Albedo From Roofing Panels," They competed with 960 participants from 394 schools in the State.

Although only a few students can go on to represent the TVSEF at further competitions, the TVSEF is proud of each of its participants, all of whom deserve and receive the sincere admiration of the community. Last year, more than 2,000 members of the public enjoyed viewing the students' projects. Your efforts are an inspiration. Thank you for your participation.

Nadine Horner
Director, Tri-Valley Science and Engineering Fair
External Relations Office, Lawrence Livermore National Laboratory

Junior Category (Grades 7-8)

Behavioral & Social Sciences

Exhibit #	Student	Grade	Project Title	Teacher	School
BE301T	Nic Aliski	7	Marketing for Kids	Pam Serzen-Dayton	Iron Horse Middle
BE301T	Elliott Allison	7	Marketing for Kids	Pam Serzen-Dayton	Iron Horse Middle
BE301T	Max Walker	7	Marketing for Kids	Pam Serzen-Dayton	Iron Horse Middle
BE305T	Helen Meng	8	White Is Just Right	Pam Serzen-Dayton	Iron Horse Middle
BE305T	Vidhi Sachdeva	8	White Is Just Right	Pam Serzen-Dayton	Iron Horse Middle
BE 102	Omar Naisan	8	Nothing but Net: The Science of Shooting Hoops	Lindsay Abbott	Livermore Valley Charter
BE 101	Sarah Adams	7	From Brawn to Brain: Does Exercise Make You Smarter?	Jeanine Gillengerten	St. Raymond
BE 116	Lena Costello	7	Musically Balanced	Jeanine Gillengerten	St. Raymond
BE 121	Alison Lander	8	When Left Can Be Right, But Right Can't Be Left	Jeanine Gillengerten	St. Raymond
BE 103	Elizabeth Betchart	7	Your Favorite Side	Suzette Takei	Sunol Glen Middle
BE 108	Adam Ball	7	Ads Are for Kids!	Suzette Takei	Sunol Glen Middle
BE 117	Holleigh Jones	7	Are You the Next American Idol?	Suzette Takei	Sunol Glen Middle

Biological Science

Exhibit #	Student	Grade	Project Title	Teacher	School
BL 103	Megan Chin	7	Sugar Rush	Regina Brinker	Christensen Middle
BL 112	Austin Weller	7	Plant Growth With Liquid and Soil	Jeff Hale	Christensen Middle
BL 106	Isabella Li	7	The Effect of Different Liquids on Plant Growth	Hitu Saksena	Diablo Vista Middle
BL 101	Jasmine Hibler	7	What Effect Do Different Light Sources Have On Effective Microorganism (EM) Bacteria?	Kent Heckenlively	Gale Ranch Middle
BL306T	Veronica Liow	7	Does the Sugar in Candy Affect the Time It Takes to Make Mold Grow?	Kent Heckenlively	Gale Ranch Middle
BL306T	Emerald Phung	7	Does the Sugar in Candy Affect the Time It Takes to Make Mold Grow?	Kent Heckenlively	Gale Ranch Middle
BL304T	Tiffany Cha	7	How Oil Affects Plants	Linda Seipel	Gale Ranch Middle
BL308T	Jasmine Daragahi	7	Egg Resistance	Linda Seipel	Gale Ranch Middle
BL308T	Hanitha Thamminana	7	Egg Resistance	Linda Seipel	Gale Ranch Middle
BL309T	Malini Anand	7	Fish and 'Scides	Linda Seipel	Gale Ranch Middle
BL309T	Meenakshi Pandiarajan	7	Fish and 'Scides	Linda Seipel	Gale Ranch Middle
BL301T	Kinza Maqsood	8	Stop! Are You Thinking About What You Are Drinking Before You Drink It?	Christy Tyler	Gale Ranch Middle
BL301T	Palak Suri	8	Stop! Are You Thinking About What You Are Drinking Before You Drink It?	Christy Tyler	Gale Ranch Middle
BL310T	Augustine Chemparathy	8	How Much Pollution Does My Soil Hold? The Correlation Between Soil Composition and Pollution Absorbence	Christy Tyler	Gale Ranch Middle
BL310T	Rishi Krishnan	8	How Much Pollution Does My Soil Hold? The Correlation Between Soil Composition and Pollution Absorbence	Christy Tyler	Gale Ranch Middle

Biological Science — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
BL312T	Saarth Shah	8	Coke: Tasty or Dangerous?	Christy Tyler	Gale Ranch Middle
BL302T	Sally Fu	8	Oily Plants: How Does The Amount of Motor Oil in The Soil Affect the Growth of Radishes?	Barbara Weisbrod	Gale Ranch Middle
BL302T	Victoria Lu	8	Oily Plants: How Does The Amount of Motor Oil in The Soil Affect the Growth of Radishes?	Barbara Weisbrod	Gale Ranch Middle
BL304T	Rachel Ingram	7	How Oil Affects Plants	Barbara Weisbrod	Gale Ranch Middle
BL304T	Julia Yoonhee Kim	7	How Oil Affects Plants	Barbara Weisbrod	Gale Ranch Middle
BL310T	Saranesh Prembabu	8	How Much Pollution Does My Soil Hold? The Correlation Between Soil Composition and Pollution Absorbence	Barbara Weisbrod	Gale Ranch Middle
BL312T	Alex Cavallo	8	Coke: Tasty or Dangerous?	Barbara Weisbrod	Gale Ranch Middle
BL312T	Jayanth Krishnasamy	8	Coke: Tasty or Dangerous?	Barbara Weisbrod	Gale Ranch Middle
BL 109	Nilam Patel	8	The Effect of Oil Spills on Plants	Pam Serzen-Dayton	Iron Horse Middle
BL 113	Caroline Zhou	7	The Affect of Cooking Time on Different Plants	Pam Serzen-Dayton	Iron Horse Middle
BL303T	Amanda Agustin	7	The Female Fingerprint	Pam Serzen-Dayton	Iron Horse Middle
BL303T	Gilliam Kutrosky	7	The Female Fingerprint	Pam Serzen-Dayton	Iron Horse Middle
BL305T	Ritu Muralidharan	8	Measuring the Amount of Unsaturated Fatty Acids in Various Oils	Pam Serzen-Dayton	Iron Horse Middle
BL305T	Kriti Nivsarkar	8	Measuring the Amount of Unsaturated Fatty Acids in Various Oils	Pam Serzen-Dayton	Iron Horse Middle
BL 111	Rubi Soto	8	Antibacterial Soap: Is It Worth It?	Tiffany Burkle	Junction Avenue Middle
BL313T	Jocelyn Hart	8	Yuck! What Happened to My Fruit?	Tiffany Burkle	Junction Avenue Middle
BL313T	Kelsey Pettis	8	Yuck! What Happened to My Fruit?	Tiffany Burkle	Junction Avenue Middle
BL315T	Diego Plascencia	8	Power Bands: Do They Really Work?	Tiffany Burkle	Junction Avenue Middle
BL315T	Jose Quevedo	8	Power Bands: Do They Really Work?	Tiffany Burkle	Junction Avenue Middle
BL 108	Eric Gateno	8	Varying Water pH Levels and Their Effects on Calcium Carbonate	Lindsay Abbott	Livermore Valley Charter
BL 131	Daniel Herrera	7	Finding a Plant's Hydroponic Home	Lindsay Abbott	Livermore Valley Charter
BL316T	Elan Douglas	8	Is It Worth It?	Lindsay Abbott	Livermore Valley Charter
BL316T	Jacob Tidwell	8	Is It Worth It?	Lindsay Abbott	Livermore Valley Charter
BL317T	Kevin Garcia	8	Gross Groceries	Lindsay Abbott	Livermore Valley Charter
BL317T	Victoria Winter	8	Gross Groceries	Lindsay Abbott	Livermore Valley Charter
BL 136	Grace Wilkins	8	Purely Water	Monica Winter	Livermore Valley Charter
BL 105	Matthew Looney	8	Phosphoric Acid and Meat	Jason Miller	Pine Valley Middle
BL 110	Alyssa Hsing	8	How Eyes Adjust to the Color and Brightness of Light	Jason Miller	Pine Valley Middle
BL 102	Ben Waterson	8	"SLICK"	Jeanine Gillengerten	St. Raymond
BL 123	Ryan Songey	8	What's On Your Sponge?	Jeanine Gillengerten	St. Raymond
BL 114	Sam Bower	7	Ethanol from Paper	Suzette Takei	Sunol Glen Middle
BL307T	Melissa Nie	7	Extracting DNA	Sue Lukito	Windemere Ranch Middle
BL307T	Rupal Nigam	6	Extracting DNA	Sue Lukito	Windemere Ranch Middle
BL307T	Rhea Mistra	6	Extracting DNA	Ellen MacLeod	Windemere Ranch Middle

Math & Computer Science

Exhibit #	Student	Grade	Project Title	Teacher	School
MC 102	Ethan Epperly	7	Power Requirements for Computers at Rest and at Work	Jeff Hale	Christensen Middle
MC301T	Elina Blazhiyevska	8	Quantum Dopamine	Julie Cilenti	Diablo Vista Middle
MC301T	Bonnie Chen	8	Quantum Dopamine	Julie Cilenti	Diablo Vista Middle
MC301T	Mayia Vranas	8	Quantum Dopamine	Julie Cilenti	Diablo Vista Middle
MC 101	Katherine Johnston	8	The Birthday Problem: Using Mathematica, Excel, and LOTS of People to Prove a Classic Stumper	Richard Clinnick	East Avenue Middle
MC302T	Ayush Rath	8	Is It Prime?	Christy Tyler	Gale Ranch Middle
MC302T	Timothy Deng	8	Is It Prime?	Barbara Weisbrod	Gale Ranch Middle
MC307T	Mustafa Fattah	8	The 21st Century Abacus - Batteries Not Included: Emulating Electronic Impulses by Means of Binary Mechanical Digital Computation	Barbara Weisbrod	Gale Ranch Middle
MC307T	Gregory Garcia	8	The 21st Century Abacus - Batteries Not Included: Emulating Electronic Impulses by Means of Binary Mechanical Digital Computation	Barbara Weisbrod	Gale Ranch Middle
MC 103	Jacob Gilbreth	8	E911 Voice Analysis	Larissa Herrera	Pine Valley Middle

Physical Science

Exhibit #	Student	Grade	Project Title	Teacher	School
PS 129	Micaela Gallegos	7	Simultaneous Comparison of Ground Level Ozone in three Countries	Regina Brinker	Christensen Middle
PS 113	Stephen Kai	8	Oil, Oil Everywhere	Arch Manganaan	Christensen Middle
PS 110	Amir Hashemizad	7	Reactionless Drives: Fact or Fiction?	Julie Cilenti	Diablo Vista Middle
PS309T	Chase Bergstad	8	Desalinating Water to Help Third Wold Countries	Julie Cilenti	Diablo Vista Middle
PS309T	Jung Kim	8	Desalinating Water to Help Third World Countries	Julie Cilenti	Diablo Vista Middle
PS 112	Daniel Han	7	The Cabbage Litmus Paper	Kent Heckenlively	Gale Ranch Middle
PS337T	Pranav Garg	7	How Do Different Liquids Affect Construction Paper After it Dries?	Kent Heckenlively	Gale Ranch Middle
PS337T	Ray (Min) Yoo	7	How Do Different Liquids Affect Construction Paper After it Dries?	Kent Heckenlively	Gale Ranch Middle
PS303T	Julie Lim	7	"Sham-Towel"	Linda Seipel	Gale Ranch Middle
PS342T	Cameron Mew	7	Moon Crater Plane: The Golf Ball Effect on an Airplane	Linda Seipel	Gale Ranch Middle
PS301T	Sabrina Dhaliwal		Which Detergent Cleans Oil Off Bird Feathers Best?	Christy Tyler	Gale Ranch Middle
PS301T	Sunny Ren	8	Which Detergent Cleans Oil Off Bird Feathers Best?	Christy Tyler	Gale Ranch Middle
PS313T	Nikky Cherukuthota	8	Water Distillation by Solar Energy	Christy Tyler	Gale Ranch Middle
PS313T	Jasmine Sandhu	8	Water Distillation by Solar Energy	Christy Tyler	Gale Ranch Middle
PS330T	Annie Chen	8	You'll Screech at the Beach if You're Unprotected	Christy Tyler	Gale Ranch Middle
PS330T	Shreya Sodhi	8	You'll Screech at the Beach if You're Unprotected	Christy Tyler	Gale Ranch Middle
PS 103	Jeon Hong Jun	8	From Wind to Energy	Barbara Weisbrod	Gale Ranch Middle
PS301T	Priyam Khemani	8	Which Detergent Cleans Oil Off Bird Feathers Best?	Barbara Weisbrod	Gale Ranch Middle

Physical Science — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
PS303T	Brittany Tran	7	"Sham-Towel"	Barbara Weisbrod	Gale Ranch Middle
PS305T	Sarah Lee	7	RIPRCIP Is So Not Music	Barbara Weisbrod	Gale Ranch Middle
PS305T	Kini Pouja	7	RIPRCIP Is So Not Music	Barbara Weisbrod	Gale Ranch Middle
PS308T	Taylor Burgess	8	Lead Gone Too Far	Barbara Weisbrod	Gale Ranch Middle
PS308T	Carter Soderberg	8	Lead Gone Too Far	Barbara Weisbrod	Gale Ranch Middle
PS308T	Kevin Yang	8	Lead Gone Too Far	Barbara Weisbrod	Gale Ranch Middle
PS310T	Skyler Gin	7	Everlasting Nails	Barbara Weisbrod	Gale Ranch Middle
PS310T	Juyun Park	7	Everlasting Nails	Barbara Weisbrod	Gale Ranch Middle
PS315T	Michaela Lopez	7	Trajectory Staple Lab	Barbara Weisbrod	Gale Ranch Middle
PS315T	Julie Nash	7	Trajectory Staple Lab	Linda Seipel	Gale Ranch Middle
PS315T	Ali Panconi	7	Trajectory Staple Lab	Barbara Weisbrod	Gale Ranch Middle
PS317T	Ronald Kam	7	Green Power	Kent Hecken-Lively	Gale Ranch Middle
PS317T	Bodhi Nguyen	7	Green Power	Linda Seipel	Gale Ranch Middle
PS317T	Daniel Lee	7	Green Power	Barbara Weisbrod	Gale Ranch Middle
PS320T	Sameer Reddy	8	Desalination by Evaporation	Barbara Weisbrod	Gale Ranch Middle
PS320T	Tejas Vajjhala	7	Desalination by Evaporation	Barbara Weisbrod	Gale Ranch Middle
PS323T	Kristine Lacson	7	Fruity Appeal	Kent Hecken-Lively	Gale Ranch Middle
PS323T	Megha Patel	7	Fruity Appeal	Barbara Weisbrod	Gale Ranch Middle
PS323T	Sophie To	7	Fruity Appeal	Kent Hecken-Lively	Gale Ranch Middle
PS327T	Isabella Bernal	8	How to Freeze Ice Cream	Christy Tyler	Gale Ranch Middle
PS327T	Stephanie Lim	8	How to Freeze Ice Cream	Christy Tyler	Gale Ranch Middle
PS327T	Joyce Xu	8	How to Freeze Ice Cream	Barbara Weisbrod	Gale Ranch Middle
PS337T	Derek Lin	7	How Do Different Liquids Affect Construction Paper After it Dries?	Barbara Weisbrod	Gale Ranch Middle
PS342T	Dion Chang	7	Moon Crater Plane: The Golf Ball Effect on an Airplane	Barbara Weisbrod	Gale Ranch Middle
PS342T	Brandon Lee	7	Moon Crater Plane: The Golf Ball Effect on an Airplane	Barbara Weisbrod	Gale Ranch Middle
PS 118	Vinod Krishnamurthy	8	Evaluating Windmill Designs	Theresa Gonsalves	Harvest Park Middle
PS 135	Chandni Mistry	8	Taking It to a Deeper Level	Sarah Laake	Iron Horse Middle
PS 101	Adnan Yunus	7	The 'Natural' Way of Whitening Teeth	Pam Serzen-Dayton	Iron Horse Middle
PS 116	Vivian Huang	7	Tick Tock Potatoes	Pam Serzen-Dayton	Iron Horse Middle
PS 145	Morgan Yee	8	Soda Can Micro-Desalinization	Pam Serzen-Dayton	Iron Horse Middle
PS322T	Abhi Ilindra	8	Temperature and Electrical Conductivity	Pam Serzen-Dayton	Iron Horse Middle
PS322T	Trevor Salaver	8	Temperature and Electrical Conductivity	Pam Serzen-Dayton	Iron Horse Middle
PS326T	Alberta Wang	8	Amount of Sulfate in Water	Pam Serzen-Dayton	Iron Horse Middle
PS326T	Kaila Young	8	Amount of Sulfate in Water	Pam Serzen-Dayton	Iron Horse Middle
PS326T	Jasmine Zhu	8	Amount of Sulfate in Water	Pam Serzen-Dayton	Iron Horse Middle
PS331T	Alexandra Gladchenko	7	How Does That Sound?	Pam Serzen-Dayton	Iron Horse Middle
PS331T	Katelyn Hefter	7	How Does That Sound?	Pam Serzen-Dayton	Iron Horse Middle
PS331T	Anna Hwang	7	How Does That Sound?	Pam Serzen-Dayton	Iron Horse Middle
PS333T	Christopher Wong	7	Finding the Resistance of Different Water Temperatures	Pam Serzen-Dayton	Iron Horse Middle
PS333T	Henry Sun	7	Finding the Resistance of Different Water Temperatures	Pam Serzen-Dayton	Iron Horse Middle

Physical Science — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
PS336T	Karthikeyan Dhuvarakesh	7	Operation Rain Detector - The "Sprinkler" Way to Save Water	Pam Serzen-Dayton	Iron Horse Middle
PS336T	Dibya Ghosh		Operation Rain Detector - The "Sprinkler" Way to Save Water	Pam Serzen-Dayton	Iron Horse Middle
PS336T	Brandon Sigamony	8	Operation Rain Detector - The "Sprinkler" Way to Save Water	Pam Serzen-Dayton	Iron Horse Middle
PS339T	Sarah Mamoon	7	The Greenhouse Effect	Pam Serzen-Dayton	Iron Horse Middle
PS339T	Faith McGary	7	The Greenhouse Effect	Pam Serzen-Dayton	Iron Horse Middle
PS341T	Chandana Kothur	8	Salt and Temperature's Effect on Dissolved Oxygen in Water	Pam Serzen-Dayton	Iron Horse Middle
PS341T	Chintalapati Sirisha	8	Salt and Temperature's Effect on Dissolved Oxygen in Water	Pam Serzen-Dayton	Iron Horse Middle
PS341T	Linda Ye	8	Salt and Temperature's Effect on Dissolved Oxygen in Water	Pam Serzen-Dayton	Iron Horse Middle
PS 147	Kieran West	8	Bombs Away	Tiffany Burkle	Junction Avenue Middle
PS 152	Jennifer Gordon	8	A Juicy Project	Tiffany Burkle	Junction Avenue Middle
PS325T	Kristin Fiedor	8	Flying Golf Balls	Tiffany Burkle	Junction Avenue Middle
PS325T	Nikhali Patel	8	Flying Golf Balls	Tiffany Burkle	Junction Avenue Middle
PS328T	Jacob Mitchell	8	The Hover Craft Experiment	Tiffany Burkle	Junction Avenue Middle
PS328T	Casey Tanod	8	The Hover Craft Experiment	Tiffany Burkle	Junction Avenue Middle
PS329T	Brenda Hernandez	7	Are You Safe in Your Clothes?	Tiffany Burkle	Junction Avenue Middle
PS329T	Abril Ramirez	7	Are You Safe in Your Clothes?	Tiffany Burkle	Junction Avenue Middle
PS340T	Gino Belluomini	8	Splatter of a Paintball	Tiffany Burkle	Junction Avenue Middle
PS340T	Chris Hinds	8	Splatter of a Paintball	Tiffany Burkle	Junction Avenue Middle
PS 102	Anuj Kak	8	Electronic Rain Detector	Lindsay Abbott	Livermore Valley Charter
PS 106	Kristen Young	8	Determining the Ability of Heliostats to Improve the Efficiency of Solar Panels	Lindsay Abbott	Livermore Valley Charter
PS 111	Ali Haider	7	Chasing "Free" Energy	Lindsay Abbott	Livermore Valley Charter
PS 114	Vineet Ramareddi	7	Solar Runway	Lindsay Abbott	Livermore Valley Charter
PS 121	Jacob Hall	8	World's Next Skateboard	Lindsay Abbott	Livermore Valley Charter
PS 143	Sana Mohammad	7	Where's the O in H2O?	Lindsay Abbott	Livermore Valley Charter
PS312T	Zabrisky Roland	8	iShoe: Creating a Renewable Energy Source Through the Use of Kinetic Energy.	Lindsay Abbott	Livermore Valley Charter
PS312T	Zachary Turner	8	iShoe: Creating a Renewable Energy Source Through the Use of Kinetic Energy.	Lindsay Abbott	Livermore Valley Charter
PS314T	Matthew Dremalas	8	What Goes Down Our Storm Drains?	Lindsay Abbott	Livermore Valley Charter
PS314T	Kevin Switzer	8	What Goes Down Our Storm Drains?	Lindsay Abbott	Livermore Valley Charter
PS319T	Jacob Rakestraw	7	Solar Racers: Are They More Efficient Than Battery Powered Cars?	Lindsay Abbott	Livermore Valley Charter
PS319T	Parker Turk	7	Solar Racers: Are They More Efficient Than Battery Powered Cars?	Lindsay Abbott	Livermore Valley Charter
PS321T	Tanner Christoff	8	Windy Days: What is the Most Effective Wind Turbine Design?	Lindsay Abbott	Livermore Valley Charter
PS321T	Claire Proudfoot	8	Windy Days: What Is The Most Effective Wind Turbine Design?	Lindsay Abbott	Livermore Valley Charter
PS 124	Sara Mount	8	Making a Better Battery Through Hydrogen Electrolysis	Monica Winter	Livermore Valley Charter

Physical Science — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
PS316T	Avni Patel	8	Fabric on Fire: Which Fabric Was the Most Fire Resistant?	Monica Winter	Livermore Valley Charter
PS316T	Lewis Taylor	8	Fabric on Fire: Which Fabric Was the Most Fire Resistant?	Monica Winter	Livermore Valley Charter
PS 125	Shisheer Havangi	8	"Go" Cart Project	Larissa Herrera	Pine Valley Middle
PS 140	Andrew Peng	8	Effect of Increasing Concentration of Salt on Refractive Index of Water	Larissa Herrera	Pine Valley Middle
PS 141	Isaiah Lewis	8	Weight vs. Velocity	Larissa Herrera	Pine Valley Middle
PS 144	Michael Tobin	8	Understanding How the Size and Location of a Perforation in a Metal Box Affects Cell Phone Reception for a Cell Phone Contained in the Box	Larissa Herrera	Pine Valley Middle
PS 146	Shashank Rao	8	Investigation of Windmill Rotor Design	Larissa Herrera	Pine Valley Middle
PS 151	Justin Raizes	8	Temperamental Lasers - The Effects of Heat and Cold on Lasers	Larissa Herrera	Pine Valley Middle
PS306T	Ye Rim Park	8	Angle of Attack vs. Drag	Larissa Herrera	Pine Valley Middle
PS306T	Michelle Xue	8	Angle of Attack vs. Drag	Larissa Herrera	Pine Valley Middle
PS324T	John Kriston	8	The Magic Stick	Larissa Herrera	Pine Valley Middle
PS324T	Thomas Kriston	8	The Magic Stick	Larissa Herrera	Pine Valley Middle
PS 126	Kylie Stang	8	Melting Chocolate	Debra Irvin	Pine Valley Middle
PS 130	Vidhi Amin	8	How Does Heat Affect Vitamin C?	Debra Irvin	Pine Valley Middle
PS 138	Rachel Wang	8	Acid Muffins' Density	Debra Irvin	Pine Valley Middle
PS 153	Angela Zhou	8	Optimal Wind Turbine	Debra Irvin	Pine Valley Middle
PS 160	Alexis Viengmyxay	8	Muffin + More = Thinner?	Debra Irvin	Pine Valley Middle
PS 104	Matthew Yeung	8	Photovoltaic Sun Tracker Apparatus Performance Factors	Jason Miller	Pine Valley Middle
PS 117	Ania Messara	8	What Is the Effect of Increasing Temperature of Water on the Dissolving Rate of Alka-Seltzer?	Debra Irvin	Pine Valley Middle
PS 119	Alex Garst	8	One Weight, a Couple of Pulleys, and the Force	Jason Miller	Pine Valley Middle
PS 120	Daniel Cox	8	Aspect Ratio and Its Effect on Sail Efficiency	Jason Miller	Pine Valley Middle
PS 123	Nicolas Kauffman	8	Wind Energy	Jason Miller	Pine Valley Middle
PS 134	Hunter Brown	8	Windmills	Jason Miller	Pine Valley Middle
PS 136	Jesse Gao	8	Water Conductivity at Different Temperatures	Jason Miller	Pine Valley Middle
PS 137	Sierra Dewey	8	Foiling With Heat	Jason Miller	Pine Valley Middle
PS 139	Zoe Chan	8	The Effect of Friction on Tires	Jason Miller	Pine Valley Middle
PS 142	Rachael Huey	8	Insulation on Heat Retention	Jason Miller	Pine Valley Middle
PS 149	Radhika Balagopal	8	Does LED Brightness Vary With Current?	Jason Miller	Pine Valley Middle
PS 155	Dhanush Patel	8	Don't Press Me Hard	Jason Miller	Pine Valley Middle
PS318T	Smita Balaji	8	Under Pressure: The Affect of Water Pressure on Magnetism	Jason Miller	Pine Valley Middle
PS318T	Joelle Victoriano	8	Under Pressure: The Effect of Water Pressure on Magnetism	Jason Miller	Pine Valley Middle
PS335T	Neil Gupta	8	Parachutes	Jason Miller	Pine Valley Middle
PS335T	Shailen Patel	8	Parachutes	Jason Miller	Pine Valley Middle
PS338T	Anjali Kalra	8	The Node of the Tennis Racket	Jason Miller	Pine Valley Middle

Physical Science — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
PS338T	Anika Kalra	8	The Node of the Tennis Racket	Jason Miller	Pine Valley Middle
PS 109	Nicole Schaarschmidt	7	Oil Turmoil: Can Oil Be Removed From Water?	Jeanine Gillengerten	St. Raymond
PS 131	Eddie Cano	8	Altitude Rewritten II	Jeanine Gillengerten	St. Raymond
PS 132	Blaz Perko	8	How to Get Clean Water	Jeanine Gillengerten	St. Raymond
PS 148	Kaela Takei	7	Strength of Glue	Suzette Takei	Sunol Glen Middle
PS 154	Lily Sullins	7	Vitamin C Content	Suzette Takei	Sunol Glen Middle
PS 156	Winnie Chen	7	Toy Lead	Suzette Takei	Sunol Glen Middle
PS 158	Zach Sonnenschein	7	Reusable Energy	Suzette Takei	Sunol Glen Middle
PS 108	Abhinav Simha	8	Cool Houses - No Electricity	Kimberly Cullen	Windemere Ranch Middle
PS 115	Shreya Magesh	8	Residential Fertilizers in Running Waters	Kimberly Cullen	Windemere Ranch Middle
PS302T	Maisam Jafri	8	Individual Water Purification System	Kimberly Cullen	Windemere Ranch Middle
PS302T	Tarun Komidi Reddy	8	Individual Water Purification System	Kimberly Cullen	Windemere Ranch Middle
PS302T	Derek Xiao	8	Individual Water Purification System	Kimberly Cullen	Windemere Ranch Middle
PS304T	Akhil Harapanahalli	8	Liquid Ph Safety	Kimberly Cullen	Windemere Ranch Middle
PS304T	Yash Sanghrajka	8	Liquid Ph Safety	Kimberly Cullen	Windemere Ranch Middle
PS304T	Vishal Swaminathan	8	Liquid Ph Safety	Kimberly Cullen	Windemere Ranch Middle
PS307T	Siddharth Kotapati	6	Desalinization Machine	Kimberly Cullen	Windemere Ranch Middle
PS307T	Rishabh Rao	6	Desalinization Machine	Kimberly Cullen	Windemere Ranch Middle
PS307T	Wesley Wang	7	Desalinization Machine	Kimberly Cullen	Windemere Ranch Middle
PS332T	Akaash Kambath	7	Holy Hovercraft!	Kimberly Cullen	Windemere Ranch Middle
PS332T	Teja Pamidimukkala	7	Holy Hovercraft	Kimberly Cullen	Windemere Ranch Middle
PS332T	Nick Sawney	7	Holy Hovercraft	Kimberly Cullen	Windemere Ranch Middle
PS343T	Hadi Abbas	8	Air Pollution	Kimberly Cullen	Windemere Ranch Middle
PS343T	Athrreyaa Ram	8	Air Pollution	Kimberly Cullen	Windemere Ranch Middle
PS 105	Vikas Ravi	7	Efficient Fan Designs	Britt Peterson	Windemere Ranch Middle

Senior Category (Grades 9-12)

Animal Sciences

Exhibit #	Student	Grade	Project Title	Teacher	School
AS 201	Albert Vazquez	12	Invertebrate's Magnetic Response	Elizabeth Lopez	Granada High
AS401T	Darren Poon	9	Moisture's Effect on Nitrate Production by Worms	Meghan Faerber	Monte Vista High
AS401T	Jack Thakar	9	Moisture's Effect on Nitrate Production by Worms	Meghan Faerber	Monte Vista High
AS 202	Bryce Maniex	9	Effect of Light on Leech Drainage of Fluids`	Robin Groch	San Ramon Valley High
AS 206	Emma Tyrrell	9	The Story Behind the Horse: How Different Horses Behave Differently	Robin Groch	San Ramon Valley High
AS 224	Dana Austin	9	The Effect of Tooth Brushing on the Bacteria in Dog and Human Mouths	Robin Groch	San Ramon Valley High
AS 230	Tyler Donohue	9	Effect of Electromagnetic Radiation on Harvester Ants	Robin Groch	San Ramon Valley High

Behavioral & Social Science

Exhibit #	Student	Grade	Project Title	Teacher	School
BE408T	Vijay Mittal	9	Arachnophobia in High School	Janet Kaehms	Dublin High
BE408T	Joshua Price	9	Arachnophobia in High School	Janet Kaehms	Dublin High
BE 201	Joshua Miner	9	Scrambled Stroop Effect	Robin Groch	San Ramon Valley High

Biochemistry

Exhibit #	Student	Grade	Project Title	Teacher	School
BC 227	Jennifer Lee	9	Identifying Flower Pigments Using Electrophoresis	Janet Kaehms	Dublin High
BC 202	Aryo Sorayya	10	Determination of Lipid Content in Nano Lipid Particles (NLA) by Dynamic Light Scattering	Brady Taylor	Monte Vista High
BC 201	Logan Silliman	9	The Effect of Chlorine on Different Colors of Hair: Do Only Blondes Turn Green?	Robin Groch	San Ramon Valley High

Cellular & Molecular Biology

Exhibit #	Student	Grade	Project Title	Teacher	School
CM 210	Edward Wang	10	Tracing the Evolution of NDM-1	Heather Pereira	Amador Valley High
CM 203	Aishwarya Yenepalli	11	Analysis of Genes Involved in the Biosilica NanoFabrication in Thalassiosira Pseudonana Using Proteomics	Eric Thiel	Amador Valley High
CM 201	Nicole Allen	12	The Effects of Hypoxia and Substrate Elasticity on C2C12 Stem Cell Differentiation	Elizabeth Lopez	Granada High

Cellular & Molecular Biology, — *continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
CM401T	James Dayton	9	Surface Bacteria	Steven Giles	Livermore High
CM401T	Roberto Quihuis	9	Surface Bacteria	Steven Giles	Livermore High
CM401T	Jan-Ross Ramon	9	Surface Bacteria	Steven Giles	Livermore High
CM 202	Elizabeth Danial	9	The Effect of Leucine and Valine on Baker's Yeast *(Saccharomyces Cerevisiae)*	Meghan Faerber	Monte Vista High

Computer Science

Exhibit #	Student	Grade	Project Title	Teacher	School
CS 210	Naveen Chakicherla	9	A Statistical Method to Model Complexity and Popularity in Music	Robert Gendron	Dougherty Valley High
CS 201	Eric Sauer	10	Toward the Evolution of Artificial Intelligence: Designing a Human-like AI That Can Learn and Adapt to User Actions & Skill-sets	Katherine Huang	Dougherty Valley High

Environmental Management

Exhibit #	Student	Grade	Project Title	Teacher	School
EM 201	Catherine Ziegler	9	Can Wonder Microbes Actually Clean Up Oil Spills Safely?	Robin Groch	San Ramon Valley High
EM401T	Dominique Arotzarena	9	An Oily Mess	Robin Groch	San Ramon Valley High
EM401T	Logan Barr	9	An Oily Mess	Robin Groch	San Ramon Valley High

Engineering

Exhibit #	Student	Grade	Project Title	Teacher	School
EN406T	Sejal Jain	9	The Engineering of Water Filtration Pt. 2	Alissa Dreon	Dougherty Valley High
EN406T	Tiuli Kulshi	9	The Engineering of Water Filtration Pt. 2	Alissa Dreon	Dougherty Valley High
EN406T	Tuhina Koppikar	9	The Engineering of Water Filtration Pt. 2	Melissa Robinett	Dougherty Valley High
EN402T	Charles Guo	11	The Effectiveness of Low-Purity Sulfide Semiconductors Grown by Pulsed Deposition	Chris Gibbons	Foothill High
EN402T	Siddharth Ramakrishnan	11	The Effectiveness of Low-Purity Sulfide Semiconductors Grown by Pulsed Laser Deposition	Chris Gibbon	Foothill High
EN402T	Brian Wu	12	The Effectiveness of Low-purity Sulfide Semiconductors Grown by Pulsed Laser Deposition	Chris Gibbons	Foothill High
EN 210	Qiaoyue Liu	11	Roof Trusses	Guangli Liu (parent)	Foothill High
EN 208	Alexander Cyr	10	VOLP (Voice Over Light Protocol)	David Foster	Granada High
EN 217	Jeffrey Warner	9	Linear Induction Motor	Steven Giles	Livermore High
EN 225	Taylor Disbrow	9	Wind Energy	Steven Giles	Livermore High
EN409T	Clayton Frieders	9	Effects of Motor Oil on Friction	Steven Giles	Livermore High
EN409T	Sam Ogee	9	Effects of Motor Oil on Friction	Steven Giles	Livermore High
EN 207	Diego Hernandez	10	Saver Strip	Susan Johnston	Livermore High
EN 215	Carter Johnson	10	Fuel Cell Efficiency	Susan Johnston	Livermore High

Engineering, — *continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
EN404T	Justin Kehl	10	Magnetic Generator	Susan Johnston	Livermore High
EN404T	Samreet Virk	10	Magnetic Generator	Susan Johnston	Livermore High
EN407T	Aaron Costello	10	P.C.S.C. (Power Collector Shopping Cart)	Susan Johnston	Livermore High
EN407T	Ben Davidson	10	P.C.S.C. (Power Collector Shopping Cart)	Susan Johnston	Livermore High
EN407T	Avtaar Mahe	10	P.C.S.C. (Power Collector Shopping Cart)	Susan Johnston	Livermore High
EN411T	Alyssa Lanza	10	Flaming Fancy Feet	Susan Johnston	Livermore High
EN411T	Emily Perry	10	Flaming Fancy Feet	Susan Johnston	Livermore High
EN411T	Haley Vopnford	10	Flaming Fancy Feet	Susan Johnston	Livermore High
EN401T	Jenna Lee	9	Drinking Water From the Ocean: Desalination	Meghan Faerber	Monte Vista High
EN401T	Sasha Sirovica	9	Drinking Water From the Ocean: Desalination	Meghan Faerber	Monte Vista High
EN401T	Matthew Uhalde	9	Drinking Water From the Ocean: Desalination	Meghan Faerber	Monte Vista High
EN 202	Tushar Kundu	10	Peace of Mind: A Bracelet Activated Lock to Safely House Autistic Children	Jeannine Leiter	Quarry Lane
EN 204	Chao Wang	11	Temperature Controlled Jacket	Jeannine Leiter	Quarry Lane
EN 206	Parker Newton	10	Multi-Touch Interactive Desk	Jeannine Leiter	Quarry Lane
EN 209	Ayano Matsubara	10	The Prosthetic Hand Pen	Jeannine Leiter	Quarry Lane
EN 216	Kevin Wang	9	Durable Safety Pod	Jeannine Leiter	Quarry Lane
EN405T	Christopher DaSilva	10	Scales - Clothing With Built-in Anatomical Protection and Support	Jeannine Leiter	Quarry Lane
EN405T	Lewis Moffat	10	Scales - Clothing With Built-in Anatomical Protection and Support	Jeannine Leiter	Quarry Lane
EN 201	James Jackson	12	iPhone App for Dyslexic Students	Eugene Mizusawa	Quarry Lane
EN 203	Dong Wuk Kim	10	Investigating the Aerodynamics of Dandelion Seeds to Develop a Parachute	Eugene Mizusawa	Quarry Lane
EN 205	Alex Milinkovich	12	Mobile Homeless Shelter	Eugene Mizusawa	Quarry Lane
EN 213	Jaein Sung	12	A Medicine Container With an Alarm	Eugene Mizusawa	Quarry Lane

Earth Science

Exhibit #	Student	Grade	Project Title	Teacher	School
ES 206	John Stuart	9	The Effect of Various Reflective Materials on the Solar Energy Absorbed by the Earth	Steven Giles	Livermore High

Energy & Transportation

Exhibit #	Student	Grade	Project Title	Teacher	School
ET 208	Deepak Matharu	9	Infinite Miles to the Gallon	Joanna Condon	California High
ET404T	Samvika Mehra	9	Lights! Wind! Action!	Joanna Condon	California High
ET404T	Dvir Reif	9	Lights! Wind! Action!	Joanna Condon	California High
ET401T	Noreen Brar	9	Efficiency of Different Fuel Substances	Deborah Sater	California High
ET401T	Nivaz Brar	12	Efficiency of Different Fuel Substances	Deborah Sater	California High
ET401T	Natasha Halarnkar	11	Efficiency of Different Fuel Substances	Deborah Sater	California High
ET 210	Saloni Shah	9	Can Rain Fuel a Car?	Alissa Dreon	Dougherty Valley High

Energy & Transportation — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
ET406T	Nick Winter	10	Watts Off or On? Watts Up or Down?	David Foster	Granada High
ET 206	Vivian Connolly	9	Hydropower	Steven Giles	Livermore High
ET 209	Sarah Dreher	9	Ecotrain	Steven Giles	Livermore High
ET403T	Jacqueline Almeida	9	The Effect of Various Insulators on the Temperature of Solar Ovens	Steven Giles	Livermore High
ET403T	Kate Twesten	9	The Effect of Various Insulators on the Temperatures of Solar Ovens	Steven Giles	Livermore High
ET406T	Brian Garcia	10	Watts Off or On? Watts Up or Down?	Renee Haugen	Livermore High
ET402T	Nathan Adelman	10	Solar Magnet	Susan Johnston	Livermore High
ET402T	MacKinley Morgan	10	Solar Magnet	Susan Johnston	Livermore High
ET402T	Nick Sanchez	10	Solar Magnet	Susan Johnston	Livermore High
ET405T	Brenna Botzheim	10	The Power of Sand	Susan Johnston	Livermore High
ET405T	Laila Hassen	10	The Power of Sand	Susan Johnston	Livermore High
ET405T	Areli Hernandez	10	The Power of Sand	Susan Johnston	Livermore High
ET410T	Nino Carmignani	10	Car Aerodynamics	Susan Johnston	Livermore High
ET410T	Garrett Dickinson	10	Car Aerodynamics	Susan Johnston	Livermore High
ET410T	Aaron Untalan	10	Car Aerodynamics	Susan Johnston	Livermore High
ET412T	Ben Alexander	10	The Electrobike	Susan Johnston	Livermore High
ET412T	Salvatore Giaviano	10	The Electrobike	Susan Johnston	Livermore High
ET412T	Nicholas Samuels	10	The Electrobike	Susan Johnston	Livermore High
ET 207	Vivien Fekete	10	Novel Turning Mechanism for Skateboards & Cerebral Palsy Mobility Device	Eugene Mizusawa	Quarry Lane

Environmental Sciences

Exhibit #	Student	Grade	Project Title	Teacher	School
EV402T	Michael Kang	11	Effects of Different Magnetic Fields on Plant Growth	Eric Thiel	Amador Valley High
EV 222	Sam Barish	9	The Effect of Photodegraded Plastic on Daphnia	Julie Bitnoff	California High
EV417T	Anand Kannan	9	Testing Water Pollution With Plants	Joanna Condon	California High
EV417T	Sai Alam	9	Testing Water Pollution With Plants	Doug Mason	California High
EV403T	Soyun Park	9	Effects of Different Oil Disperents on Spilled Oil	Katherine Huang	Dougherty Valley High
EV403T	Amanda Sugijoto	9	Effects of Different Oil Disperents on Spilled Oil	Katherine Huang	Dougherty Valley High
EV416T	Brandon Lo	9	Motor Oil and Aquatic Plants	Janet Kaehms	Dublin High
EV416T	Kimberli Zhong	9	Motor Oil and Aquatic Plants	Janet Kaehms	Dublin High
EV402T	Lucy Guo	11	Effects of Different Magnetic Fields on Plant Growth	Greg Martinez	Foothill High
EV402T	Linus Ho	11	Effects of Different Magnetic Fields on Plant Growth	Greg Martinez	Foothill High
EV 203	Stephanie Herbert	12	Testing for Toxins in Shadow Cliffs Lake and Their Effects on Aquatic Development	Elizabeth Lopez	Granada High
EV 208	Jacob Brisco	9	The Effect of Temperature Increases on the Water Level	Steven Giles	Livermore High

Environmental Sciences — *continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
EV 229	Michelle Hawkins	9	The Effect of Different Pollutants on the Absorption Rate of Soil	Steven Giles	Livermore High
EV411T	Amanda Rawashdeh	9	Effects of Oil on Land vs. Water Plants	Steven Giles	Livermore High
EV411T	Priya Sri-Tharan	9	Effects of Oil on Land vs. Water Plants	Steven Giles	Livermore High
EV406T	Shalandus Calip	10	Water Desalination	Susan Johnston	Livermore High
EV406T	Natasha Moore	10	Water Desalination	Susan Johnston	Livermore High
EV406T	Ivan Valdez	10	Water Desalination	Susan Johnston	Livermore High
EV 202	Stephanie Liu	9	Salad Lovers - Pinching Pennies Without Sacrificing Food Safety	Meghan Faerber	Monte Vista High
EV 207	Shreyas Bhave	9	Worm Compost - The Super Microorganism Filled Fertilizer?	Meghan Faerber	Monte Vista High
EV 227	Johannes Fischer	9	Effect of Prolonged Shutoff of the Water on Bacterial Growth in Domestic Water Heating Systems	Meghan Faerber	Monte Vista High
EV404T	Marshall Krock	9	Polar Bear Meltdown	Meghan Faerber	Monte Vista High
EV404T	Hans Lee	9	Polar Bear Meltdown	Meghan Faerber	Monte Vista High
EV 201	Adam Shaw	9	The Effect of Recycled Water on the Growth and Biofuel of Algae	Robin Groch	San Ramon Valley High
EV 221	Brooke Begun	9	The Effect of Micronized Zinc Oxide Particles on Saltwater Algae: Is Sunscreen Safe for Seaweed?	Robin Groch	San Ramon Valley High
EV 228	Lance Chou	9	The Effect of Alkalinity of Ocean Water on Brine Shrimp: Adverse Effects of Pollution	Robin Groch	San Ramon Valley High
EV401T	Tyler Gambill	9	Mass Producing Energy: How Different Strains of Algae Affect the Mass Production of Oil	Robin Groch	San Ramon Valley High
EV401T	Connor Salvo	9	Mass Producing Energy: How Different Strains of Algae Affect the Mass Production of Oil	Robin Groch	San Ramon Valley High
EV405T	Sydney Lance	9	Dropping Like Flies: The Effect of Plastic Decking Materials	Robin Groch	San Ramon Valley High
EV405T	Melissa Lawrence	9	Dropping Like Flies: The Effect of Plastic Decking Materials	Robin Groch	San Ramon Valley High
EV412T	Alex Ma	9	The Effect of High Fructose Corn Syrup on Earthworms	Robin Groch	San Ramon Valley High
EV412T	Tavneet Sidhu	9	The Effect of High Fructose Corn Syrup on Earthworms	Robin Groch	San Ramon Valley High

Mathematical Sciences

Exhibit #	Student	Grade	Project Title	Teacher	School
MA402T	Steven Wang	9	Factor Analysis of Locational Fingerprints	Lejla Cyr	Granada High
MA402T	Paul Epperson	9	Factor Analysis of Locational Fingerprints	Raj Virk	Livermore Valley Charter
MA401T	Amanda Kershaw	11	Use of Math to Understand Scaling and Perspective in Art	Jeannine Leiter	Quarry Lane
MA401T	Amy Kim	10	Use of Math to Understand Scaling and Perspective in Art	Jeannine Leiter	Quarry Lane

Microbiology

Exhibit #	Student	Grade	Project Title	Teacher	School
MB408T	Ruchita Gupta	11	Near-infrared Light Biostimulation: A Novel Approach to the Optimization of Industrial Biosynthesis	Beth Cutter	Amador Valley High
MB408T	Ray Zhou	11	Near-Infrared Light Biostimulation: A Novel Approach to the Optimization of Industrial Biosynthesis	Beth Cutter	Amador Valley High
MB406T	Akshay Aitha	9	The Effect of Pollution on Protist Populations in the Bay Area	Janet Kaehms	Dublin High
MB406T	Aaron Yu	9	The Effect of Pollution on Protist Populations in the Bay Area	Janet Kaehms	Dublin High
MB 202	Michael Kuhn	12	Phage-Powered Fluorescence: Using Recombinant Lambda Phages to Transform E.coli	Elizabeth Lopez	Granada High
MB401T	Maryann Gong	10	An Apple a Day Keeps the Harmful Microorganisms Away	Elizabeth Lopez	Granada High
MB401T	Grant Salk	11	An Apple a Day Keeps the Harmful Microorganisms Away	Elizabeth Lopez	Granada High
MB404T	Elise Falgout	9	What's in Your Sponge?	Steven Giles	Livermore High
MB404T	Alyssa Stevenson	9	What's in Your Sponge?	Steven Giles	Livermore High
MB 203	Jeffrey Feng	9	How Sulfur Dioxide From Industrial Processes Affect the Growth Rate of Marine Dinoflagellates	Meghan Faerber	Monte Vista High
MB 211	Vishank Jain-Sharma	9	Is the "Five Second Rule" Fact or Fiction?	Meghan Faerber	Monte Vista High
MB 214	Aditi Vepa	9	Scented Killers	Meghan Faerber	Monte Vista High
MB403T	Chris Francis	9	The Effects of Pollutants on the Bioluminescence of Pyrocystis Fusiformis	Meghan Faerber	Monte Vista High
MB403T	Justin Tsung	9	The Effects of Pollutants on the Bioluminescence of Pyrocystis Fusiformis	Meghan Faerber	Monte Vista High
MB 201	Davis Kusnick	9	The Effect of Sunscreen on Yeast Genetics	Robin Groch	San Ramon Valley High
MB 210	Ariana Moghbel	9	Browsing Through Bacteria: A Study on Bacterial Growth	Robin Groch	San Ramon Valley High
MB 215	Sean Jaffe	9	Agrobacterium Tumefaciens	Robin Groch	San Ramon Valley High
MB402T	Michaela Gwynn	9	A Study of Bacteria on Pizza Boxes: Is America's Most Loved Food Safe?	Robin Groch	San Ramon Valley High
MB402T	Claire Hoffman	9	A Study of Bacteria on Pizza Boxes: Is America's Most Loved Food Safe?	Robin Groch	San Ramon Valley High
MB405T	Lea Palumbo	9	The Reliability of Dog Waste Bags on Blocking Out Harmful Bacteria	Robin Groch	San Ramon Valley High
MB405T	Morgan Pearce	8	The Reliability of Dog Waste Bags on Blocking Out Harmful Bacteria	Robin Groch	San Ramon Valley High

Medicine & Health

Exhibit #	Student	Grade	Project Title	Teacher	School
MH403T	Michelle Chen	11	SNPs of Breast Cancer	Katherine Huang	Dougherty Valley High
MH403T	Meera Kumar	11	SNPs of Breast Cancer	Katherine Huang	Dougherty Valley High
MH401T	Brooke Brunckhorst	9	The Affects of Different Types of Medicine for Tension Type Headaches. Which Type of Medicine Works Best?	Janet Kaehms	Dublin High

Medicine & Health — *continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
MH401T	Cassandra Lai	9	The Affects of Different Types of Medicine for Tension Type Headaches. Which Type of Medicine Works Best?	Janet Kaehms	Dublin High
MH 209	Varun Krishnamurthy	11	Using Mathematical Models to Design a Mass Vaccination Program	Mark Hailey	Foothill High
MH 203	Rahul Doraiswami	12	Diagnosing Prostate Cancer Using Extra-Cellular Signaling	Greg Martinez	Foothill High
MH 204	Christina Guilford	11	Researching Resveratrol's Replenishment: A Study of Its Effect on Life Longevity in Drosophila Melanogaster	Frankie Tate	Granada High
MH402T	Sarah Beyer	12	Amylase Levels of Human Saliva	Frankie Tate	Granada High
MH402T	Sara Shull	12	Amylase Levels of Human Saliva	Frankie Tate	Granada High
MH 201	Christina Ren	9	Ways to Enhance Cell Regeneration	Meghan Faerber	Monte Vista High
MH 202	Jordan Acacio	9	Can You Trust Your Vision; Why Things Appear to Disappear	Eugene Mizusawa,	Quarry Lane
MH 210	Shauheen Ladjevardi	11	In Vitro Testing of the Bioavailability of Insulin in Caco-2 Cell Culture	Eugene Mizusawa	Quarry Lane

Physics & Astronomy

Exhibit #	Student	Grade	Project Title	Teacher	School
PH 202	Jason Liu	10	How High Will It Go?	Susan Kleespies	Foothill High
PH 203	Mitchell Jakubka	9	Kicking Technique vs. Strength	Steven Giles	Livermore High
PH 201	Ciaron Bench	9	The Effect of Earth's Magnetic Field on Cosmic Rays	Raj Virk	Livermore Valley Charter

Plant Sciences

Exhibit #	Student	Grade	Project Title	Teacher	School
PL403T	Domenic Bottini	9	Electricity and Plants	Dina Anderson	California High
PL403T	Jonathan Chan	9	Electricity and Plants	Dina Anderson	California High
PL404T	Nikita Gawande	9	Phyting Pollution: Mycorrhizal Inoculated Pole Bean Plants as a Means of Phytoremediation	Katherine Huang	Dougherty Valley High
PL404T	Priyanka Potdar	9	Phyting Pollution: Mycorrhizal Inoculated Pole Bean Plants as a Means of Phytoremediation	Katherine Huang	Dougherty Valley High
PL 203	Uzair Mohammad	11	Plant Power: Using ATP From Cyclic Photophosphorylation to Generate Heat	Frankie Tate	Granada High
PL407T	Christian Burns	12	Permanent and Inherited Effects of Different Wavelengths of Light on the Respiratory and Photosynthetic Rates of Brassica Rapa and Juncea over Multiple Generations	Frankie Tate	Granada High
PL407T	Megan Cohen	12	Permanent and Inherited Effects of Different Wavelengths of Light on the Respiratory and Photosynthetic Rates of Brassica Rapa and Juncea over Multiple Generations	Frankie Tate	Granada High
PL 202	Robert Shi	9	Does Protein Enhance the Growth of Plants?	Steven Giles	Livermore High

Plant Sciences — *Continued*

Exhibit #	Student	Grade	Project Title	Teacher	School
PL 205	Victoria Dragon	10	The Effect of Music on Plant Growth	Steven Giles	Livermore High
PL405T	Harish Kandaswamy	9	The Effect of Specific Plant Nutrients on the Growth of Plants	Steven Giles	Livermore High
PL405T	Charles Zhou	9	The Effect of Specific Plant Nutrients on the Growth of Plants	Steven Giles	Livermore High
PL408T	Aubrianna Decker	9	Cucumis Sativus	Steven Giles	Livermore High
PL408T	Sadie Serdahl	9	Cucumis Sativus	Steven Giles	Livermore High
PL 204	Gautam Ramesh	9	Effects of Ethylene Gas on Bananas	Meghan Faerber	Monte Vista High
PL402T	Sabrina Chiang	9	C vs. A+B vs. D+E: the Vitamin Battle	Meghan Faerber	Monte Vista High
PL402T	Hanbin Cho	9	C vs. A+B vs. D+E: the Vitamin Battle	Meghan Faerber	Monte Vista High
PL 201	Lia Dawson	9	Anemotropism: A Study of the Effect of Wind on Vines	Robin Groch	San Ramon Valley High
PL401T	Andrew Halle	9	The Effect of Salt Water on Rice Plant Growth: A Study for the Future	Robin Groch	San Ramon Valley High
PL401T	Jeff McGill	9	The Effect of Salt Water on Rice Plant Growth: A Study for the Future	Robin Groch	San Ramon Valley High
PL406T	Anusha Suresh	9	Off With the Weeds	Robin Groch	San Ramon Valley High
PL406T	Megan Tsang	9	Off With the Weeds	Robin Groch	San Ramon Valley High
PL410T	Jenny Lake	9	The Effect of Carbon Dioxide on Lima Beans	Robin Groch	San Ramon Valley High
PL410T	Meagan Stephenson	9	The Effect of Carbon Dioxide on Lima Beans	Robin Groch	San Ramon Valley High

Scientific Review Committee

The Scientific Review Committee is comprised of individuals knowledgeable about government regulations concerning experimentation with vertebrate animals, potentially hazardous biological agents, and controlled substances.

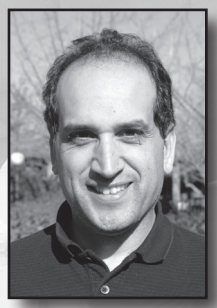
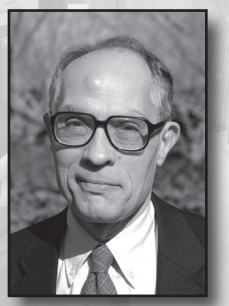
Sabre Coleman, Chairman
Lawrence Livermore National Laboratory

Rob Cavallo
Lawrence Livermore National Laboratory

T.R. Girill
Lawrence Livermore National Laboratory, Retired

Mary Beth Hodge
San Ramon Valley Joint Unified School District, Retired Middle School Teacher

Julie Orvis
Retired Veterinarian

Institutional Review Board

The Institutional Review Board evaluates the potential physical and/or psychological risk of research involving human subjects.


Stephanie Ball, Chairman (left)
Sandia National Laboratories, California

Patti Carothers (right)
Lawrence Livermore National Laboratory, Science Education Fellow

Pauline Huben (not pictured)
Livermore Valley Joint Unified School District

Behind the Scenes

Meet an LLNL Environmental Engineer

Sabre J. Coleman
Lawrence Livermore National Laboratory
Scientific Review Committee Chairperson

Sabre leads the committee that reviews and approves student applications and ensures that all requirements are met, including for the winners advancing on to the next phase, the Intel International Science and Engineering Fair.

Background
Sabre has worked in the environmental science field for more than 25 years. She has a Bachelor of Science degree in Environmental/Civil Engineering from Brown University and a Masters of Science in Environmental and Water Resources Engineering from the University of Michigan.

Sabre now works in the Lab's Environmental Protection Department as an environmental analyst. In this role she works with a variety of staff throughout the Laboratory in helping them to be good stewards to the environment, as well as stay in compliance with environmental regulations. Sabre gets to combine her environmental knowledge and experience as a researcher with her ability to work on a team.

Why science?
Sabre admits that she was attracted to science and math as a child. "There is a special comfort to math; it's a logical and universal language," Sabre states. "In a marketplace, whether in the United States, China, or Europe, if you point to a pile of produce and hold up two fingers, the seller is probably going to understand that you want two."

She credits her mother and grandfather with inspiring her and calls them the "wind beneath my wings. On Sundays when we were at my grandparents' for dinner, my grandfather and I would have a race to see who could complete my extra credit math problem first."

"I was fortunate enough to be enrolled in a summer program at Lafayette College's campus that introduced promising minorities to engineering. We spent a full week on Lafayette College's campus learning about the various fields of engineering. In the evenings, they had to kick us out of the computer lab. I was hooked; I knew then that I would have a career in the sciences."

Her first job working part-time for a physiologist/pediatrician at the University of Pennsylvania introduced her to Dr. Maria Delivoria-Papadapolous, who was "a wonderful mentor and inspiration. She helped me to prepare for a wonderful college experience at Brown University."

Supporting students in science and engineering
Sabre believes that as a child others encouraged her to follow her scientific dreams and that she should do the same. "I strongly believe in the importance of giving children the opportunity to excel and showcase their potential. Kudos to the parents, teachers, school administrators, and volunteers that make the Tri-Valley Science and Engineering Fair possible."

Behind the Scenes

Meet a Sandia Physician

Stephanie Ball, M.D.
Sandia National Laboratories, Livermore, California
Institutional Review Board Chairperson

This is Stephanie's fifth year as chair of the Human Subjects Committee, the Institutional Review Board that reviews projects involving human subjects and recombinant DNA before the work is done, and ensures that students have considered safety in order to avoid any danger to themselves or their subjects.

Background
As the physician in the on-site clinic at Sandia/California, Stephanie helps managers adjust work for injured personnel, counsels individuals on health matters, and refers people to a variety of specialists. Because it is a small workplace, she gets to know a lot of people. She sees people in the clinic for job-related injuries, as well as colds and sports injuries, and "all the aches and pains that we humans get."

What is the best part of her job? "Variety," she says. "I am on committees, write procedures, study medical topics and teach, as well as see and treat patients. I really think I have the best job in the world."

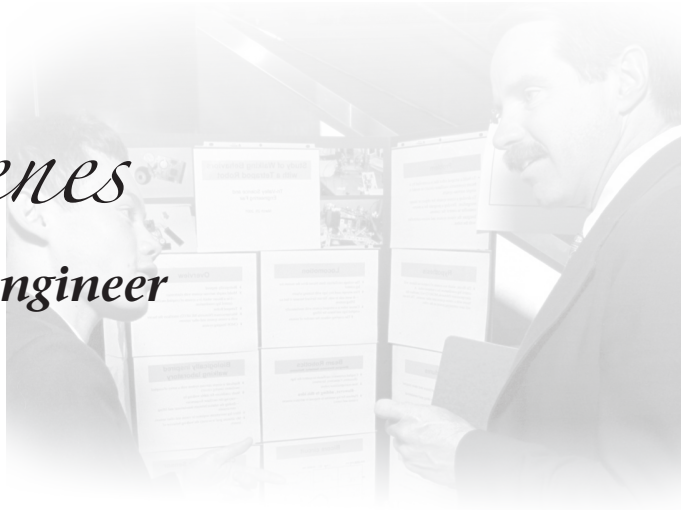
Why science?
Stephanie dropped out of college for a while after her first year. Only when she went back to nursing school did she discover an aptitude and pleasure in learning science. "Being in the hospital I discovered that doctors were not mysteriously brilliant in an unattainable way. I figured I was smart enough to go to medical school, too. I graduated from medical school in 1985, residency in Internal Medicine in 1988, and came to Sandia from a large group practice in 1990."

"My advice to students is once you find your niche, go for it. I attended classes at five different colleges and at least two different community education programs before getting my bachelor's degree. I worked in many different jobs before figuring out health care was where I belonged. But once I found it, I stuck with it. Now, I can hardly imagine doing anything else."

Supporting students in science and engineering
"It is important for each of us to give back to our communities in some way. Being part of the committee takes advantage of my experience and training, and I can apply it more directly to encouraging students. And, thinking about safety and humans is my normal approach to work, so my position on the committee is a good fit," she says.

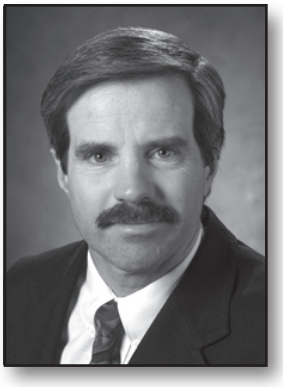
"Students need to know that science is not magic. It can be learned, and many people do lots of different science. Science opens doors and can be the key to finding your particular best-fit job and joy in life."

Behind the Scenes



Meet an LLNL Electronics Engineer

Steve Azevedo, Ph.D.
Lawrence Livermore National Laboratory
Lead Judge



As a lead judge for the TVSEF, Steve is responsible for organizing all the judges so that their results are balanced and participating students have a fun learning experience.

"At the same time that TVSEF is going on, hundreds of other similar fairs are also taking place around the world," Steve notes. "Using the same rules, we want TVSEF to be a good preparation for those who go on to the international competition. We try to help judges who have not been involved in the process before to compare the projects in a common way."

Background
Steve has worked in the science field since joining LLNL after graduate school in 1979. He is an electrical engineer at LLNL's National Ignition Facility (NIF), the largest and most energetic laser in the world.

He's part of a team that works on digital signal processing, taking measurements, or signals, from sensors and then applying physics and math to turn the measurements into information, just like turning radar pings into vehicle speed. Researchers depend on the data collected from sensors to understand and analyze their technical projects and experiments.

Why science?
"My parents were both teachers who enjoyed learning all their lives; they encouraged exploration even when I was a child," Steve says.

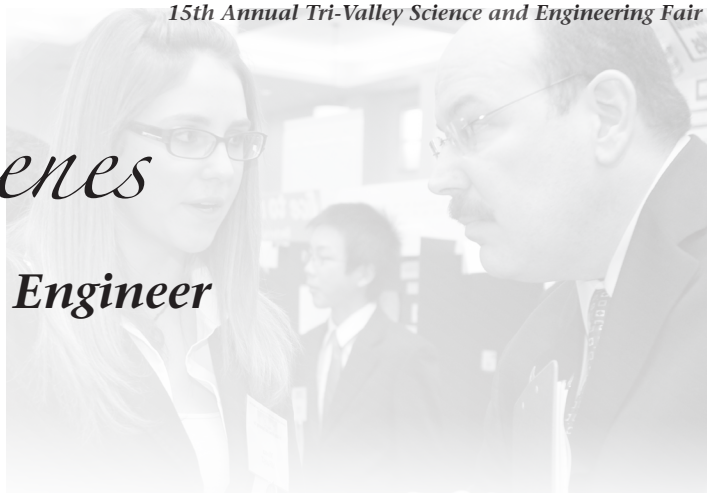
He remembers a high school physics teacher who sparked his interest in how the universe works, how early computers used logic, and how natural laws can explain our observations.

"I was impressed with how mathematics can be a language to study and describe all of this complexity. It was enough to persuade me to study science and engineering in college and for the rest of my life."

Supporting students in science and engineering
Steve has been involved in the TVSEF for more than 10 years.

"It is very important to me that the students feel they have a positive experience in their early attempts at science, and with their presentations to experts. We want to allow young scientists the ability to practice the discipline of science, and to experience the excitement of learning something new.

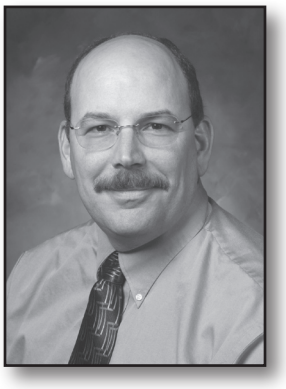
"I have the pleasure of learning something new from the students each time I attend TVSEF."



Behind the Scenes

Meet an LLNL Mechanical Engineer

Scott Couture
Lawrence Livermore National Laboratory
Lead Judge



Scott is a lead judge whose primary responsibility is to make sure projects are judged fairly and students come away from the science fair with a positive impression of the overall experience.

"Our hope is that students will benefit both from doing their projects and from their interactions with the judges, who may be the first scientists and engineers that students encounter outside the classroom," Scott says.

Background
Scott's science career began in 1978, when he worked in reactor research at the Oak Ridge National Laboratory as a co-op student during his sophomore year. His background is in control systems and automation for precision machine tools and manufacturing systems. In 1992, he moved from Oak Ridge to the Livermore Lab to head up the robotics program.

Since joining LLNL, he has worked on a wide range of robotics-related projects, such as radioactive materials handling, waste sorting for hazardous waste management, and precision diamond turning machines for manufacturing large crystal optics for LLNL's National Ignition Facility. He currently works in the Lab's weapons program as the Core Surveillance Project Leader.

Why science?
"I got interested in science when I was an 8th grader in Florida participating in a marine biology gifted program. We would be dismissed from school for half a day every Wednesday to work with researchers at a local institute that had a mobile trailer with a classroom in it. We'd watch educational movies or go out to collect samples and specimens for our projects and then bring them back to school in jars to show our classmates.

"It was then that I completed my first research project, which was on pollution from runoff in the estuary. Later, I connected with the NTIS (National Technical Information Service) in Oak Ridge, which, at the time, distributed well-made educational booklets on many topics for free. That led me to nuclear energy and technology and then working at Oak Ridge."

Supporting students in science and engineering
"I have participated in the TVSEF since its first year. My hope is that it will be a positive experience that leaves students wanting to stay engaged and learn more about science or engineering.

"In the 8th grade, the marine biologists didn't hand me the answers, they led me to the answers. That's what I try to do when I interact with the students. One of my favorite things is to browse through projects the night before the judging to find ones I have a personal interest in and come back the next day to learn about them from the young scientists themselves.

"TVSEF should help students discover whether science is the thing that will hold their interest for the long term and make a great career for them. Science should be fun—at least to scientists. When you choose a career, you may spend 8-9 hours a day at work, but it's almost always occupying your thoughts on one level or another. Your career is such a big a part of your life that you have to love what you do."

Judges

Lead Judges

Stephen Azevedo
Scott Couture
Lawrence Livermore National Laboratory

American Vacuum Society
Larry Heath
Paul Mirkarimi

ASM Materials Education Foundation
Jeff Haslam

Bellecci & Associates
Dan Leary

Biophysical Society
Jenny Cappuccio

Cedar Mountain Winery
Linda Ault

City of Livermore
Bill Henderson
John Pomidor

The Clorox Company
Bill Smith
Richard Uriarte

Dublin San Ramon Services District
Raj Gumber
Stan Kolodzie
Jackie Yee

ENGEO Incorporated
Zac Crawford

Environ Corp.
Lan Ma

Food Technologists
Jyostna Bhatt
Dale Olds
Earl Week

Genentech Retired
William Henzel

Intel Corp.
Steve Mattos

Kaiam Corp.
Paul Ludwig

Kaiser Permanente
Elizabeth Newton
Sandy Stuart

Lawrence Livermore National Laboratory
George Anderson, Jr.
Steve Azevedo
Andy Bayramian
Dan Bergmann
Tiziana Bond
Essex Bond
Tatyana Borovina
Chung Bothwell
Mark Bowers
David Chambers
Diana Chen
Kim Christensen
Chelle Clements
Lori Collins
Mark Converse
David Cotrell
Scott Couture
Michelle D'Hooge
Chris Ebbers
Pat Epperson
Jacquelyn Etter
Lindsey Evans
Piyush Gupta
Carolyn Hall
Susane Head
Dave Hill
Ellen Hill
Rich Hume
Ken Jackson
Paul Jackson
Crystal Jaing
Mike Kumbera
Simon LaBov
Catherine Lacayo
Sharon Langman
Asher Langton
Sean Lehman
Sonia Letant
Steve MacLaren
Willie Mitchell
Mike Moran
Fady Najjar
Ali Navid
Lee Neely
Joseph Nilsen
Walt Nissen
Ruben Ocampo
George Overturf
Mehul Patel
Scott Perfect
David Price
Alan Ragsdale
Ana Rosa
Mike Runkel
Mike Rushford
Miranda Sarachine
Robert Schmidt
William Sharp
Dennis Slaughter
Susan Springer
Wolfgang Stoeffl
Clinton Torres
Natalie Trebes
Heidi Turner
Roy Warner
Sonia Wharton
Jessica Wollard
Leta Woo

LLNL Retired
Carl Walter
Fritz Frick
Lynn Kissel
Fung-Ming Kong
Art Krakowsky
John Pitts
Dick Quigley
Ken Williams

Lockheed Martin
Ken Stuart

Martinez Engineering Consulting
Ignacio Martinez

Medical doctor, Retired
Gil Carroll

Modesto Junior College
Andrew Goreff

NCB & Ron Orta
DeVere Charon

Nitinol
Jennifer Decker

Northwestern Mutual
Douglas McKenney

Judges – continued

Off Ramp Music
Tom Evans

PeopleSpaces Design Corp
Teresa Goodwin

PG&E
Breesa Kassing

Veterinarian, Retired
Ron Gammon

Sandia National Laboratories
Will Bolton
Dov Cohen
Yalin Hu
Michael Karres
Robert Kinzel
Chung-Yan Koh
Jane Ann Lamph
Larry Thorne

Sblendorio Vineyard
Sblend Sblendorio

Stanford Research Institute Retired
Ken Horner

Stanford University
Lawrence Hooser

St. Joseph Notre Dame
Jean Kuznik

Sustainable Design
Charles Castalano
Polly Rich
Rob Rich

Tesoro
Dilek Alkaya

The LAST Factory
Walt Davies

TOPCON Positioning Systems
Richard Bennet
Eric Chan
Josh Rau

Tri-Valley Conservancy
Laura Mercier

U.S. Air Force
John Crandley
Col. George Sakaldasis

U.S. Army
Dave Morrow
Tom Ramos
Charles Ball

Westinghouse Electric Co.
Asgar Faal-Amiri
Javed Kahn
Tim Lloyd
Rodney Lum
Joseph Somsel
Hari Srivastava
Sharon Bowers

Dear Judges,

Thank you for devoting time to the Tri-Valley Science and Engineering Fair. As world-class scientists and engineers, you inspire and encourage the youth of our community to enter the fields of science and engineering. Your contributions and willingness to take time out of your busy schedules to come and be judges contributes enormously to the success of the TVSEF.

Sincerely,

Chelle Clements
Judge Coordinator, Tri-Valley Science and Engineering Fair
Lawrence Livermore National Laboratory

Nick Williams
Special Awards Coordinator, Tri-Valley Science and Engineering Fair
Lawrence Livermore National Laboratory, Retired

Judges as of February 25, 2011

Albert Einstein Sponsors

Chevron

Human Energy™

Chevron has been a part of the fabric of California for 130 years. Today, we are the largest company in the state and the only major oil and natural gas company headquartered here. The company's success is driven by the ingenuity and commitment of our employees who operate across the energy spectrum. Chevron explores for, produces and transports crude oil and natural gas; refines, markets and distributes transportation fuels and other energy products; manufactures and sells petrochemical products; generates power and produces geothermal energy; provides energy efficiency solutions; and develops the energy resources of the future, including biofuels and other renewables.

At Chevron, we believe the most important kind of energy is human energy. The ability to innovate, to solve problems and to turn visions into reality is at the very heart of the California character — and at the heart of Chevron. That's why we're committed to investing in education and supporting local schools and programs that are encouraging students to participate in science, technology, engineering and math.

Chevron invests in students and education because we know innovations are California's future.

Sponsors

Dublin San Ramon Services District (DSRSD) is proud to sponsor inquiry and innovation by tomorrow's scientists and engineers. Since 2005, DSRSD chemists, engineers, and technology professionals have supported the Tri-Valley Science and Engineering Fair as project judges and mentors. The District also provides sponsorship grants to TVSEF and special awards to students and their teachers for excellence in water, wastewater or recycled water research.

DSRSD delivers drinking and recycled water to Dublin and Dougherty Valley, manages the wastewater collection system in south San Ramon and Dublin, and operates the wastewater treatment plant that serves Dublin, south San Ramon, and Pleasanton.

The District is a leader in environmental stewardship. Its wastewater treatment plant generates the majority of its own power with clean-burning, renewable fuels, and its headquarters is certified as an Alameda County Green Business, using high-efficiency toilets, energy-saving lighting, and recycled water irrigation. The District's water recycling plant produces approximately 750 million gallons of irrigation water annually, conserving that quantity of drinking water. District leaders participated in the statewide task force that drafted a comprehensive recycled water policy for California. DSRSD also is taking a leading role in the San Francisco Bay Area Biosolids to Energy Project, a first-in-the-nation effort to manage biosolids disposal for a large metropolitan area. Please visit www.dsrsd.com for more information.

galaxy press

It has been and always will be the desire of Galaxy Press to produce a quality product at a reasonable cost. The staff is dedicated to our customer's needs and consistently offers a level of service and professionalism that extends far beyond the level of service typically found today. Our goal, though some may deem it old fashioned, is to maintain a high moral sense of integrity and ethics and to create a workplace where our employees can express their ideas and concerns in a team environment. Above all else, we want our organization to be one that both our employees and customers can be proud of.

Galaxy Press is a leader in the printing industry in helping to conserve our natural resources and protect our environment. We were the first Green Printer in Contra Costa County and a volunteer member of Bay Area Air Quality Control. What all this means is from your project to our environment, we care.

When looking for a printer for your next project, it is our hope that you will consider Galaxy Press a company that you would like to create a partnership with. We work hard at our relationships and rely on your referrals to bring us new business and new friends.

Give us a call at 925-798-3212 and let us quote your next job.

The Institute of Electrical and Electronics Engineers is the world's largest technical professional association. It is dedicated to advancing technological innovation and excellence for the benefit of all humanity. IEEE and its members inspire a global community through IEEE's highly cited publications, conferences, technology standards, and professional and educational activities.

The Institute has more than 400,000 members in more than 160 countries and publishes more than 150 transactions, refereed journals, and magazines. It sponsors more than 1,200 conferences annually, and has 1,300 active standards and projects under development, underpinning many of today's power-generating products and services, information technology, and telecommunications, such as the IEEE 802.11 standard for wireless networking. The IEEE is a trusted source of unbiased information and its journals are consistently among the most highly cited in electrical and electronics engineering, telecommunications and other technical fields.

IEEE was formed in 1963 by the merger of the American Institute of Electrical Engineers, founded in 1884, and the Institute of Radio Engineers, founded in 1912. Since its formation, electronics has became ubiquitous — from jet cockpits to industrial robots to medical imaging. During this time, computers evolved from massive mainframes to desktop appliances to portable devices, all part of a global network connected by satellites, fiber optics, and wireless communications. IEEE's fields of interest have expanded well beyond electrical and electronic engineering into computing and other areas such as micro- and nano-technology, ultrasonics, bioengineering, robotics, electronic materials, and many others. The IEEE today it is composed of 38 technical societies and seven technical councils representing the full range of research and development in all fields electrical and electronic.

IEEE is organized into 333 local sections worldwide, one of which is the local Oakland/East Bay (OEB) section. OEB members are employed by this area's top universities, government laboratories, and industrial firms. In addition to establishing and maintaining this region's reputation for being on the forefront of technological innovation, IEEE OEB members reach out to the community through involvement in local professional activities, and in outreach to local schools and science fairs. They are a proud sponsor of this year's Tri-Valley Science Fair.

Kaiser Permanente, founded in 1945, is a nonprofit integrated health care organization, with physicians, nurses, and staff working in collaboration to provide high quality care to its members and address the health care needs of its communities,. Kaiser Permanente opened its first Tri-Valley medical offices in Pleasanton in 1983 and expanded into Livermore in 2003. In 2006, Kaiser Permanente purchased 58 acres in Dublin to allow for future development of services as the Tri-Valley continues to grow.

In 2008, for the 12th straight year, Kaiser Permanente maintained its position as the health care quality leader in California, according to reports published by the National Committee for Quality Assurance, California's Office of the Patient Advocate. The California Cooperative Health Care Reporting Initiative, and U.S. News and World Report. Kaiser Permanente also had the "Highest Member Satisfaction Aamong Commercial Health Plans in California," according to the J.D. Power and Associates 2008 National Health Insurance Plan Study.

Kaiser Permanente's Northern California Region serves almost 3.2 million members. It includes 6,000 physicians and about 65,000 employees. The region has 19 major medical centers. Last year, Kaiser Permanente donated approximately $375 million to programs benefiting Northern California communities.

For more information about Kaiser Permanente, visit us at www.kp.org.

Sponsors

The Livermore Valley Education Foundation, LVEF, was created in 1991 by parents and community members in response to a severe budget crisis in the State of California. Our mission has always been to enhance education for all students in our district. LVEF is run strictly with volunteers and we pledge that no more than 1 percent of donated dollars will be used for operating expenses. Since its founding, LVEF has provided nearly $3 million in funding to support music, arts, science, technology, athletics, libraries and has even helped fund class size reduction for elementary students. We also have funded several student scholarships and teacher awards. LVEF is always looking for ways to improve students' educational experiences.

Please visit our website at www.lvef.org to see how you can contribute to our organization. We welcome your participation as well as your financial support.

Sandia National Laboratories

Sandia National Laboratories, a Department of Energy research facility, unites the commitment of some 8,300 employees toward the common goal of applying science and technology to create a more secure world. Initially established in New Mexico in the late 1940s, Sandia opened a second site in California's Livermore Valley in 1956. Sandia California has since grown to include some 900 staff and 250 contractors, post-doctoral fellows, and students.

Employees at Sandia California apply world-class science, engineering, and systems analysis to solve problems of national importance, including:

• Nuclear stewardship: Charged with stewardship of several weapons in the U.S. nuclear stockpile, Sandia performs annual assessments of each through integrated analysis of test and simulation data.

• Energy security: For more than 20 years, Sandia's Combustion Research Facility has conducted basic and applied research to improve the energy efficiency and environmetal profile of combustion, the source of 85 percent of the nation's energy, and combustion processes, the backbone of numerous critical industries.

• Homeland security programs including cybersecurity, chemical and biological detection, border security, and radiological/nuclear countermeasures

Deeply attached to their communities, Sandia employees reach out in many ways. Through such initiatives as the Livermore Employee Assistance Program and holiday food and gift drives, Sandia employees contribute about $230,000 annually to charitable causes. Further, the Sandia/Lockheed Martin Foundation donates more than $50,000 annually to local cultural, educational, and human services groups. We also strengthen the community by showing environmental leadership, creating business partnerships, volunteering, and providing scholarships to high school seniors who've overcome exceptional challenges.

Sponsors

TOPCON

Topcon Positioning Systems (TPS), headquartered in Livermore, is the global leader in developing and manufacturing precision positioning equipment. The company offers the largest selection of innovative precision GPS and GNSS systems, commercial lasers, optical instruments for surveying and civil engineering applications, machine control, and agricultural products.

TPS is the world's largest company focused exclusively on positioning control and machine control products, software, and applications for the survey, civil engineering, construction and agriculture industries, TPS has pioneered more "firsts" in the positioning technology arena than any other company.
Regardless of application needs – from open-field construction projects to isolated survey sites and from rolling farmland to inner city utility tasks, TPS provides exemplary innovative technology that provides a decidedly competitive edge to end-users.

The company is the recognized innovation design and manufacturing trend-setter in the areas of precise positioning and machine control, pioneered the integration of positioning and automation technologies with one single goal: To save time. The company slogan – It's time. – states the company's purpose and goal succinctly. It's simple, really: Save time and you save money.

Regardless of the needs of business – quality, rugged products, attention to detail, improving productivity, enhancing job site safety, lowering operating costs, or increasing profits – Topcon technology leads the way.

The company's reputation is built on two key elements of business: Technological advancements and providing exemplary customer service.

TRI-VALLEY COMMUNITY FOUNDATION
Local Dollars Meeting Local Needs

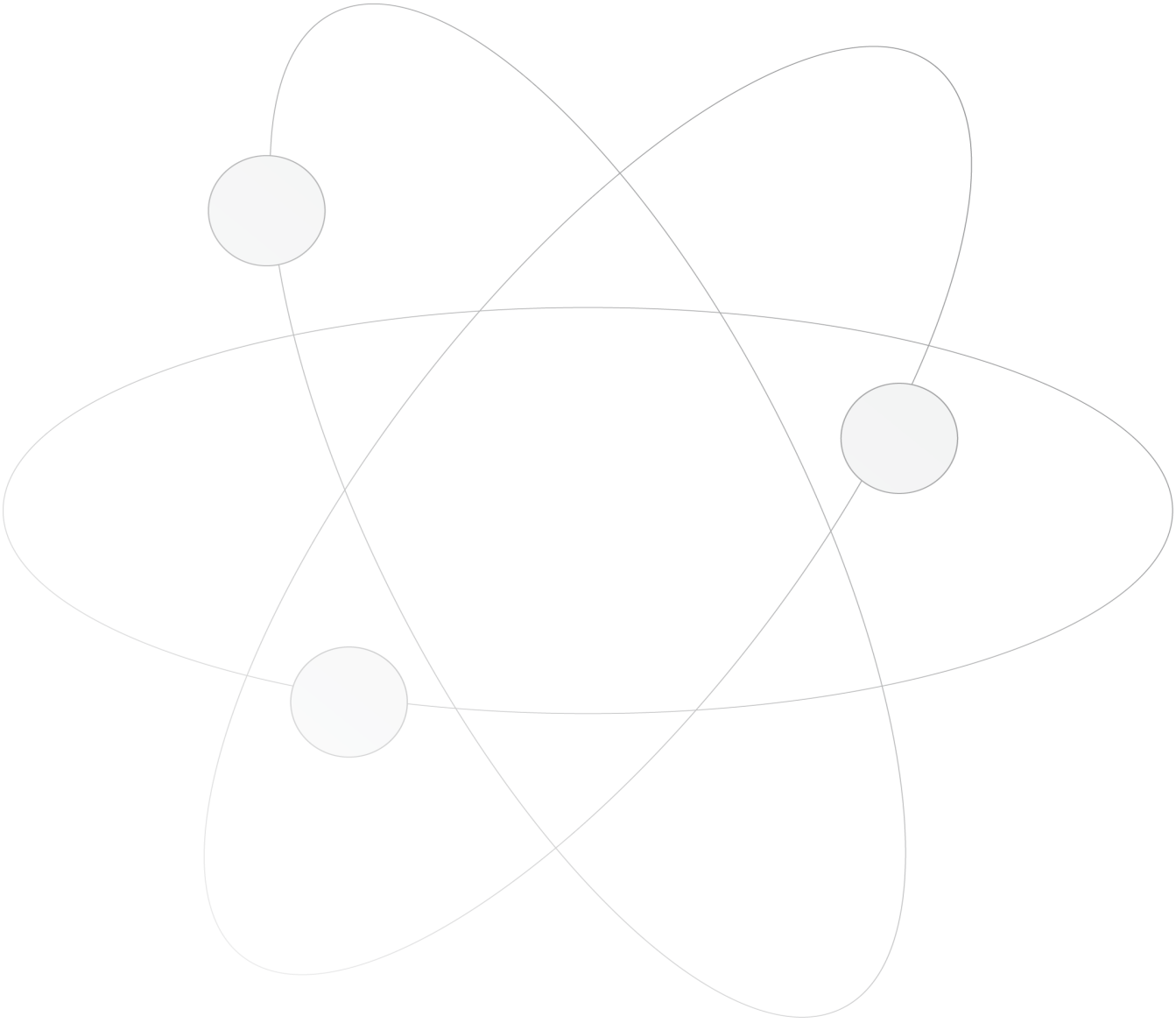
Since 1982 the Tri-Valley Community Foundation has been raising and distributing funds to support more than 100 local nonprofit organizations and schools. Many people consider the "affluent" communities of the Tri-Valley to be insulated from problems such as domestic violence, malnutrition, inadequate access to health care, mental illness and limited resources for public education. These challenges, however, exist in the Tri-Valley just as they do in less prosperous communities. The Foundation continually assesses our communities' needs and builds strategic partnerships with individual donors, businesses, governmental agencies and nonprofit organizations to respond effectively to these needs.

In addition to making monetary grants to support community projects, the Foundation also offers many types of technical assistance to local nonprofit organizations, helping them to become better managed, more productive, and financially secure. Assistance includes training and mentoring to build organizational capacity and fostering collaborations with other service providers to prevent duplications of service and reductions in administrative overhead.

The Foundation is an effective steward of donated funds, including annual contributions and permanent endowments. Donors to the Foundation may support a specific charity, a field of interest (such as education, health care or the arts), or multiple organizations spanning many of the donors' interests. Funds are invested prudently under strict investment policies and managed by experienced financial professionals. Tax-exempt nonprofit organizations may apply for funds at any time during the year by submitting a brief Letter of Inquiry that can be downloaded through the Foundation's web site at www.tvcfoundation.org. To communicate with the Foundation by email, write to us at info@tvcfoundation.org.

Valent U.S.A. Corporation is a leading crop protection firm serving the agricultural and non-crop products markets in North America with products for conventional as well as organic production. Valent products help growers produce safe and abundant food and fiber crops, and horticultural professionals improve the quality of life for their customers.

As Valent's business is science based and heavily regulated to ensure that we help feed a growing world in a sustainable way, the goals of the Tri-Valley Science & Engineering Fair are highly compatible with Valent's business mission, Valent is happy to be able to play a role in promoting the development of future science leaders from our local youth.



Meet the Keynote Speaker

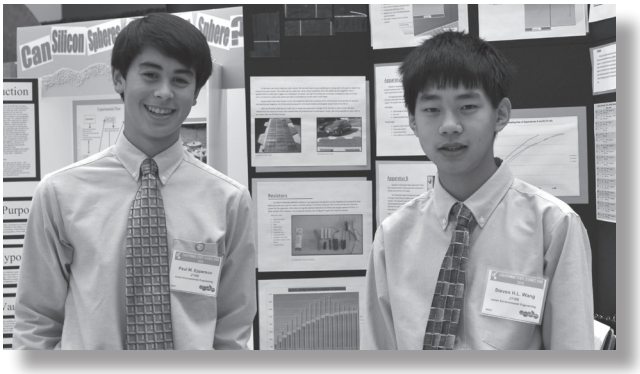
Aaron J. Simon (A.J.)
Lawrence Livermore National Laboratory
Energy systems analyst

A.J. Simon is an energy systems analyst at Lawrence Livermore National Laboratory, where he is the principal investigator for LLNL's energy flowcharts. He also is also involved in several other technology development projects at Livermore, which currently include fusion energy, hydrogen fuel, the energy-water nexus and carbon dioxide management.

Prior to joining LLNL in the summer of 2008, A.J. worked at Stanford University's Global Climate and Energy Project for five years. There, he helped manage a $20 million research portfolio of advanced energy research projects. From 2001 to 2003, A.J. worked as a mechanical engineer on diesel engines and gas turbines at General Electric's Global Research Center in Niskayuna, NY. A.J. received his B.S. in mechanical engineering in 1998 and his M.S. in mechanical engineering in 2000, both from Stanford University.

California State Science Fair Winners

In 2010, teammates Steven Wang and Paul Epperson won the Junior Division sweepstakes competition at TVSEF. Their project, "Creating an Energy Efficient Solar Powered Water Desalination Apparatus," took second place in the environmental engineering category at the 59th annual California State Science Fair in Los Angeles.



In 2010, Riley Eldridge won the Junior Division sweepstakes competition at TVSEF for his project, "What's on Your Roof? A Study of Reflected Emissivity and Albedo From Roofing Panel." Judge Lee Neely is show at right.

Notes

Notes