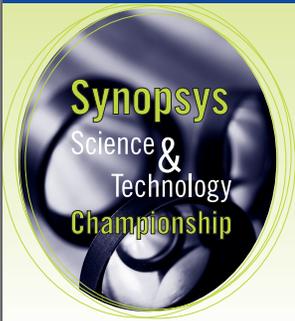


March 17, 2010



Synopsys Championship Newsletter 2010

Santa Clara Science and Engineering Fair Association Celebrating 50 Years of Science



Welcome from Jerry Kissinger, President, SCVSEFA

What a great year to be part of the solution! 2010 represents the 50th year for the Santa Clara Valley Science and Engineering Fair Association and the 10th proud year with our major sponsor, the Synopsys Outreach Foundation. Science education in the Santa Clara Valley is having a banner year. Our Synopsys Championship participation is up 30% over last year. More than ever before, teachers are bringing the science fair experience to their classrooms. Record numbers of Championship winners are being selected as semifinalists or finalists in national science competitions. Where our students participate, they compete!!

Fifty years is a significant milestone! One which would not be possible without hundreds of people volunteering tens of thousands of hours each year, and sponsors and donors willing to invest their money in the future of

our youth. The SCVSEFA Board of Directors, our students, teachers, judges, volunteers, and sponsors all provide the ingredients which make the Synopsys Championship one of the best regional fairs in the United States. As you tour the Hall, be sure to look at the participation stars on the student badges. Participating four, five, even six times is not unusual. Behind every project is a teacher or interested adult who sponsors that project and provides time, energy, and expertise.

The Board of Directors and an army of volunteers work twelve months a year planning and organizing the Fair, holding student workshops, and making presentations to teachers and administrators. I wish to personally thank them for their hard work and dedication.

Many of our judges return year after year. Science fairs are about

so much more than science or math. Students learn to research, to make and support conclusions, and to present what they did and what they learned. These are life skills. Our judges enjoy making the experience valuable and memorable for the participants.

We strive to engage the students in the larger world of research science and beneficial engineering. When our young people interact with other scientists young and old from around the world, we see huge growth in maturity and enlightenment about the world around them. This is the reward I gain from volunteering for the Synopsys Championship.

We thank all our sponsors and donors—large and small, volunteers, judges and especially the teachers who make this fair possible for the students of the Santa Clara Valley.

SCVSEFA MISSION STATEMENT

"OUR MISSION IS TO AWAKEN MORE STUDENTS TO THE WONDERS AND POWER OF SCIENCE AND ENGINEERING"

From Science Fair to Synopsys Championship

An Interview with Gary Robinson, President, Synopsys Outreach Foundation

Q. *What is the Synopsys Outreach Foundation?*

A. The Foundation is dedicated solely to supporting project-based learning. Our singular focus allows us to provide that support directly to teachers and students, bypassing bureaucracies and delivering financial and material support straight to the classrooms where students and teachers are developing science projects. Our application and delivery systems make it as easy as possible for busy teachers to receive the support they need.

Since 1999, our objective has been to identify those areas where students and teachers require the most support, and to provide that support. Our programs address remuneration for teachers for time spent outside classroom hours, provision of science project poster boards and other science fair related materials, cash grants for equipment, and student incentives, such as Kudos candy bars, balloon arches, posters, stickers, etc.

Q. *What was the impetus for the Synopsys Outreach Foundation to sponsor the Science Fair?*

A. The Intel ISEF in San Jose in 2001 was the direct impetus. Once the idea for a foundation began to take shape, we started to better understand the need for support for students and teachers as they undertook the time-consuming and costly process of

THANK YOU SYNOPSYS



developing science projects for competition. The program quickly expanded from Santa Clara County to what is now a statewide network of support.

Q. *What else do you do to encourage science education in Silicon Valley?*

A. We are most proud of sciencepalooza!, a science fair we started in 2000 exclusively for students in the East Side Union High School District of San Jose. Prior to sciencepalooza!, only about 25 ESUHSD students developed competitive science fair projects each year. Now, some 1000 students work on projects each year. sciencepalooza! is one of the largest single-day science competitions in California, and nearly 13,000 students have participated over the years.

The Foundation supports countless school and district level fairs, SuperSchool teacher training seminars, an advanced science

research class and lab, and sponsors sciberpalooza!, an online science fair for 5th and 6th graders in California.

Q. *Do you have some interesting facts and figures?*

A. This Foundation annually supports 125,000 students and teachers engaged in project-based learning at more than 500 schools. Many of these schools have low income populations.

Q. *How many students and teachers have you touched over the years?*

A. Since 1999, the Synopsys Outreach Foundation has provided support for project-based learning to 790,034 students developing 572,264 projects with the help of 23,824 teachers at 2,877 schools.

Q. *Do you have a favorite Synopsys Championship story to share with us?*

A. My favorite story is my own observation of the growth of the fair into what is, arguably, the best county science fair in California. The Championship is a truly remarkable enterprise. It is efficiently managed and executed and committed to the highest standards of quality at every level. The Synopsys Outreach Foundation is very proud to sponsor the Synopsys Championship—a science fair Silicon Valley can be proud of.

Awards Ceremonies at Great America

California's Great America has proudly sponsored the Synopsys Championship Awards Ceremony since 2000. They have donated the use of a theater and provided technical audio-video support which has enabled us to produce an Oscar-worthy awards ceremony to honor the Synopsys Championship winners. Additionally, California's Great

America has provided thousands of free tickets so that the winners and their families and teachers can experience the dual thrills of winning a Championship award and riding some of the most exciting roller coasters around! Many thanks to California's Great America for its continued and generous support!



Teachers: Our Heroes!

Teachers are often the unsung heroes of the Synopsys Championship. Our teachers invest huge amounts of time and energy to guide their students along the path to defining, researching, and completing science fair projects. Along the way, the teachers must master the intricacies of the rules and guidelines that each project must follow in order to qualify for competition. They also assist their students in getting over the practical and theoretical rough spots associated with any challenge of this magnitude. Many teachers even ensure that the completed projects are set up on time and in their proper locations at the exhibit hall.

Our teachers are dedicated to helping their students understand the importance of quality and innovation as they work to create outstanding science and engineering projects. They are the ones in the background providing practical support and generously sharing their time, knowledge and talent.

Why do they do it? Bruce Kawanami of Monta Vista High School sums it up this way: "Seeing the student's growth makes the time investment well worth the effort."

Each year, the Santa Clara Valley Science and Engineering Fair Association presents the Horace

Lucich Awards for Outstanding Teachers. The teachers are recognized with a plaque and \$1000 cash. Please join us in congratulating the following winners of the **2009 Horace Lucich Awards**:

- Dawn O'Connor
Ascencion Solorsano
Middle School
- Linh Pham
Old Orchard School
- Kate Schafer
Harker School – High
School Campus
- Amanda Alonzo
Lynbrook High School
- Bruce Kawanami
Monta Vista High School
- John C. Howe
Presentation High School



California State Science Fair TEACHER OF THE YEAR

Winners



2006



Dawn O'Connor
Ascencion Solorsano
Middle School
Gilroy, CA

2007



Carol Evans
Oak Grove High School
San Jose, CA

2008



Amanda Alonzo
Lynbrook High School
San Jose, CA

The Santa Clara Valley Science and Engineering Fair Association is proud to count these three **California State Science Fair Teacher of the Year** winners amongst our ranks.

Science Fair Family: Judges and Volunteers

We would like to recognize and thank the numerous judges and volunteers who have joined the Championship family and return year after year to judge the projects and ensure the smooth operation of the science fair. Their tireless efforts, from long before the time the Convention Center doors are opened for project check-in to the time the lights are turned out in the Great America theater after the awards ceremonies, are greatly appreciated.

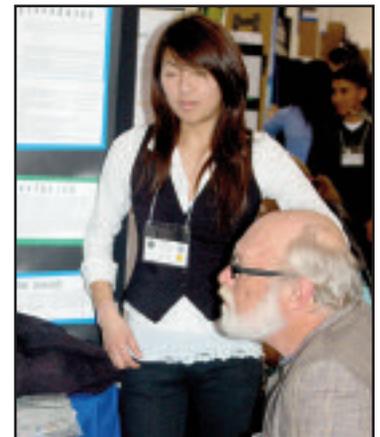
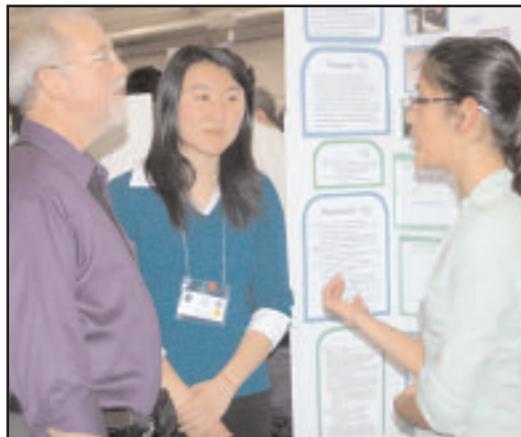
Each year approximately 450 judges come to the Championship. As much as possible, the judges look at projects that fall within their area of expertise. They not only evaluate the science or engineering involved in each project, but also the student's own level of expertise and interest in the subject at-hand. While talking to the students, the judges

take the opportunity to provide encouragement and the occasional constructive comment. The sentiment most often expressed by returning judges is that they enjoy listening to students describe their experiences as they applied the scientific method or the engineering design process to real-world situations, overcame the inevitable challenges, and gained new knowledge and skills. The students often mention how much they appreciate the opportunity to share their work with interested and knowledgeable adults who aren't a captive audience (parents and teachers).

The event that brings together students and judges would not occur without the thousands of hours provided by our technical and non-technical volunteers who do anything and everything including data entry of project applica-

tions forms, reviewing those applications to ensure that the proposed projects meet the required rules and minimum quality standards, helping on project check-in day and during the Championship itself, and ensuring that the Awards Ceremonies run smoothly. In addition to individuals, our volunteers include Monta Vista High School students as well as retirees and their spouses who belong to the Hewlett-Packard/Agilent Technologies Retiree Volunteers (HPARV).

Without this dedicated group of people, the Synopsys Championship could not take place. www.science-fair.org contains up-to-date information about judging and volunteer opportunities during the fair and year-round.



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We would like to thank Rambus Foundation for their very generous donation for the printing of this 50th Anniversary newsletter.



Come for the Science, Return for the Awards!

You did it! You thought of an idea for a science fair project, completed the application, did the research, created a display board, wrote your abstract and made it to the Synopsys Championship! There were probably a few hiccups along the way, but you persevered. Congratulations on your accomplishment! What's next? Judging! Who are all those judges? Over the course of the afternoon you will speak to Category judges and maybe Special Awards judges.

When you applied to participate in the science fair, you specified what category best fit your project. Categories include Physics, Microbiology, Engineering, and so on. Category judges (wearing blue ribbons) represent the Santa Clara

Valley Science and Engineering Fair Association and judge your project against a group of your peers in the same grade level and category. After reviewing your display board and talking to you, they determine first place, second place and honorable mention awards within the group.

Special Awards are offered by over 60 different groups. The groups include professional organizations, corporations, military organizations, and even some individuals. Before you arrive on Wednesday, Special Awards judges (wearing white ribbons) look at all the projects that fit their organization's criteria and narrow down their choices. The judges spend the afternoon talking to the students about their projects and selecting the winners they

feel best meet their organization's criteria.

In addition to the Category and Special Awards, teams of judges (wearing red ribbons) review projects and interview students for the Grand Prizes. Winners of the middle school Isabelle Stone and Castro Family awards win an all-expense paid trip to the California State Science Fair and winners of the high school Grand Prize awards win an all-expense paid trip to the Intel International Science and Engineering Fair.

All in all, there will be hundreds of awards presented at the Awards Ceremonies at Great America on April 11. Did you win? Check www.science-fair.org. A list of winners will be posted on or about March 25.

Special Awards Sponsors

Al Foster Award
American Association for Laboratory Animal Science
American Chemical Society, Santa Clara Valley Local Section
American Meteorological Society
American Psychological Association
American Society of Civil Engineers
American Society of Heating, Refrigeration and Air Conditioning Engineers
American Vacuum Society – Northern CA Chapter
Apatite to Zircon, Inc. Award
ASM International, A Society for Materials
Association for Women Geoscientists – San Francisco Bay Area Chapter
Association for Women in Science – Palo Alto Chapter
California Association of Professional Scientists
California Society for Biomedical Research – Ron Orta Excellence in Biomedical Research
California Water Environment Association
Common Ground Organic Garden Supply & Education Center
Fair Manager's Graphic Design Award

Genencor Biotechnology Awards
Hegland Award
Hewlett-Packard Laboratories
Infotech Outreach Awards
Institute of Electrical and Electronic Engineers
Intel Excellence in Computer Science Award
Labcoat Award for lab bench finesse
MedImmune
Monterey Bay Aquarium
Morgan Lewis
Mu Alpha Theta
NASA Ames Research Center
National Oceanic and Atmospheric Administration
National Society of Professional Engineers
Northern California Institute of Food Technologies (NCIFT)
Pauchon Foundation Award
Product Safety Engineering Society
Professional and Technical Consultants Assn (PATCA)
Promethium Chapter of Iota Sigma Pi
RAE Systems
Resource Area for Teaching (RAFT) Teacher Award
Ricoh Corporation
Robert Brownlee-Schmahl Science Award

SAMPE – Society for the Advancement of Materials and Process Engineering
San Jose State University College of Engineering
San Jose State University Student Affiliates of the American Chemical Society
Santa Clara County Biotech Education Partnership (SCCBEP)
Santa Clara County Integrated Waste Management Program
Schonert Award
Society for In Vitro Biology
Society of Women Engineers
Stockholm Junior Water Prize
System Safety Society
Tech Museum of Innovation
The ROD Women in Science Award
The Tech Summer Camps
Trimble Navigation, Ltd.
United States Air Force
United States Army
United States Coast Guard Auxiliary
United States Metric Association
United States Navy and Marine Corps
U.S. Public Health Service Award
Varian Medical Systems
Wireless Communications Alliance
Yale Science and Engineering Association

Opportunity Knocks...

Top winners of the Synopsys Championship in all grades have the opportunity to compete at the California State Science Fair (CSSF). Additionally the Grand Prize winners of the Synopsys Championship have the privilege of competing at the Intel International Science and Engineering Fair (Intel ISEF).

Additional opportunities and science-based competitions are described on our website: <http://sites.google.com/site/synopsyschampionship/furthercompetition>.

Intel International Science and Engineering Fair

The Intel International Science and Engineering Fair (ISEF) is the Olympics of science and engineering fairs and provides an extraordinary experience for those fortunate enough to attend. Intel ISEF is a six day event that allows participants to meet and share their interest in science and engineering with more than 1500 high school students from over 50 countries. The students compete for nearly \$4 million in awards and scholarships. The only way to get the opportunity to compete at Intel ISEF is by entering and winning at an affiliate science fair. The Synopsys Championship is the affiliate fair for students in Santa Clara County.

Shubha Raghvendra, a 2009 observer and ambassador, described his experience in the following way:



Chemistry, cash, cream cheese, computer science, Conan O' Brian. These topics, and many more, can be summed up in one phrase: ISEF 2009. The Santa Clara Valley Delegation's trip to the 59th annual International Science and Engineering Fair in Reno, Nevada was an experience unlike any other, and certainly one I will never forget. It was a time of discovery, excitement, food, friends, and fun. As an observer, I had the unique opportunity to observe the dynamic of the most prestigious science fair in the world, host to many a future Nobel Prize winner. From the frantic last-minute project assemblies to the

international pin exchange, that May week was as jam-packed as possible; however, the one event that really seemed to be the pulse of the entire operation was the Fair Visitation Day. On this public exhibition day, everywhere I looked I could see high school students just like me explaining their projects to people of all ages and experience levels. To me, this really represented what the science fair experience is really all about: sharing your passion for science with others.

The 2010 Intel ISEF will be held in San Jose May 9-14 at the San Jose Convention Center. Since the fair is in our own backyard, we are all fortunate to be able to share in the Intel ISEF experience by stopping by during Public Viewing day on May 13 to explore the outstanding and unique projects and soak up the enthusiasm the attendees radiate. Many of the finalists have done original scientific research or developed novel engineering solutions for real-life problems. For more information see <http://www.isef2010sanjose.org/about-fair.html>.

Teachers of grades 6 – 8 can pre-register for a hands-on program and teachers of all grades are requested to register for a guided tour on May 13.

Judges, interpreters, and general volunteers are needed to help ensure the success of ISEF 2010. To sign up please visit: <http://www.isef2010sanjose.org/volunteers.html>.



California State Science Fair



Selected first place Synopsys Championship winners are offered the opportunity to represent themselves and the Synopsys Championship at the California State Science Fair. Each year, CSSF sets a quota on the number of projects each regional fair, such as the Synopsys Championship, is able to send to CSSF. The allotment is based on the success of that fair's winners at the previous year CSSF. Due to the efforts of the Synopsys Outreach Foundation, teachers, and SCVSEFA board members, the quality of projects at the Synopsys Championship has improved significantly over the

last decade and the number of projects we are able to send to CSSF has nearly doubled! Congratulations to everyone involved in our quality initiative.

What is it like at the California State Science Fair? A whirlwind two-day experience! After an early morning flight to Los Angeles and bus ride to the LA Sports Arena, the students register, set up their projects and attend an afternoon keynote address. Evening fun and games among the Synopsys Championship group serve to help develop memories and forge new friendships.

On the second day, judging occupies the entire morning. After lunch and a little downtime to decompress, the Awards Ceremony is held. By this time the students have become a cohesive group and are thrilled when the efforts of their friends are recognized and they win category and special awards! After the awards ceremony it's time to break down the projects and board the bus for the return trip to San Jose and the real world; tired, happy, with new experiences and friends, and grand plans for next year.

Scientific Review Committee (SRC) and Minimum Quality Requirements

The Scientific Review Committee (SRC) is a 16-member panel of psychologists, teachers, administrators, molecular biologists, engineers and physicists as well as a veterinarian who review all project applications to the Synopsys Championship. The SRC reviews each project primarily for potential safety issues and gives suggestions, or insists, when necessary, to make the project less hazardous. Then we review to ensure the project has followed all the Intel ISEF Rules and Guidelines; these are primarily motivated by safety issues, but they also ensure we meet all the federal laws pertaining to testing on humans and vertebrate animals, and that the student, teacher, and parents have approved the project application.

Some form of minimum quality requirements (MQR) have been in existence for all 12 years that I have been involved with the regional sci-



Ann Burrell, Ph.D.

ence fair (remember the admonition of "No Volcanoes"). Over the years we have become more explicit about what we expect from each science, engineering or testing project. The current MQR have been published in the application for the last two years. Additionally, posted on our website is a list of projects we hope not to see; this list is intended to aid students and teachers in project selection.

Why have we instituted these minimum quality requirements? We believe that students learn more from a study done well and such projects generate more and better data to present to judges. The judges (those who validate the students' work) are rewarded with better quality projects to judge—and this leads to judge retention and more experienced judges over time. So, have the MQR led to the overall increase in quality in the projects over time (as demonstrated by our increased participation at the California State Science Fair)? Not directly, since winning projects usually exceed the minimum and show student innovation, hard work and creativity. Indirectly, however, a positive interaction with judges and the opportunity to see the quality of other students' work often sparks the response, "I had a good time and I want to do a better project next year!"

Congratulations to Our 2009 Winners!

California State Science Fair Awards

Recognition Awards
CSSF Project of the Year!!!
David Zarrin

Category Awards

1st Place

David Zarrin
Alexandria Gallizioli
Sean Wieser
Laurel Kroo
Tejas Navaratna
Raman Nelakanti
Anna Thomas

2nd Place

Susmitha Bhat
Evaline Cheng
Lena Egbert
Kaavya Jayram
Christopher Powers
Jacqueline Wang

3rd Place

Malika Kumar
Haley Zarrin
David Liu
Darline Seu
Sheilalyn Solis

4th Place

Jennifer Chen
Akshay Maheshwari
Ritik Malhotra
Natalie Ng

Honorable Mention

Timmy Beckmann
Cheng (Emily) Cheng
Aakriti Jain
Keegan Dahm
Jonah Kaye
Vivien Macnguyen

Special Awards

Air Quality/Climate Change Award
Evaline Cheng

Science Buddies Award
Timmy Beckmann
Lena Egbert

SPIE Optics and Photonics
Lena Egbert

California Association of Professional Scientists
Keegan Dahm

Health Physics Society Award
Eric Jang
Paulomi Bhattacharya

CSSF Project of the Year



David Zarrin
Redwood Middle School



The gold star on your name badge indicates how many years you have participated in the Synopsys Championship. Have a look around you and see if you can find anyone returning for their 5th, 6th, or 7th time!

Intel International Science and Engineering Fair Awards

Category Awards

2nd Place

Ritik Malhotra
Daniel Peng
Elias Lebovits
Naveen Murali

3rd Place

Cheng (Emily) Cheng
Aakriti Jain

4th Place

Jennifer Chen
David Liu
Justin To

Special Awards

Agilent Technologies
Ritik Malhotra

American Association of Pharmaceutical Scientists
Daniel Peng
Elias Lebovits
Naveen Murali

Drexel University
Ritik Malhotra

IEEE Computer Society
David Liu

Office of Naval Research
Jennifer Chen

Patent and Trademark Office Society
Raman Nelakanti

United States Army
David Liu

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We extend our sincere appreciation to Hassan Lashgari and Nancy Rowden of Pine Press Inc. who work very hard to help the SCVSEFA board meet its publishing deadlines. Each "Fairtime" their entire staff stops and starts the presses anticipating our every need and producing our work to perfection.

The Santa Clara Valley Science and Engineering Fair Association is administered by a very active Board of Directors and a small paid part-time staff. In fiscal year 2009, the 21 board members donated nearly 5000 hours of volunteer time. That's the equivalent of 125 40-hour work weeks or one person working for 2 ½ years!

The board meets year-round to organize and manage the Synopsys Championship as well as activities that support it such as student workshops and teacher training. Additionally, board members accompany our winners to the California State Science Fair (CSSF) and Intel International Science and Engineering Fair (Intel ISEF)—all on their own time!

We have a wonderful mix of long-term and new members; experience, fresh ideas and enthusiasm are the perfect mix. We'd like to recognize and thank the following board members and staff for their combined 93 years of service: Pat Castro (1976), Larke Reeber (1978), and Carole Kalcic (1982).



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