



STEM FAIR REPRESENTED AT OUTSTANDING YOUNG SCIENTIST COMPETITION

The Outstanding Young Scientist School in Santa Barbara, earned a spot as a Competition is a statewide program that recognizes the top Outstanding Young Scientists among middle and high school students in California. A CAPS panel of experts selected the three finalists from thousands of students competing at 15 Science and Engineering Fairs throughout the state.

The competition begins annually in the summer, with the awards ceremony in the fall. The Outstanding Young Scientist competitors are those students who have been selected to receive the regional CAPS Science Achievement Awards.

The Synopsys Sacramento Regional STEM Fair's own Adith Arun, a sophomore at Mira Loma High School, was selected for his project titled *Mathematical Modeling and Algorithms to Design More Efficient Cancer Therapeutics*. His project looked at how to improve the effectiveness of cancer treatments by examining the timing of medicine. Arun won third place in Chemistry and Health Sciences at this year's Fair.

Eveline Mayner, a junior at San Marcos High

Erin Lamphear, an eighth grader at Jacoby Creek Charter School in Humboldt County, was selected for her project titled *Factors Affecting Aquatic Macro-Invertebrate Diversity in Northern California Coastal Streams*. Her project looked at what factors affect the biodiversity of insects in a stream and the overall health of the stream. Lamphear's research found that a stream with many different species of aquatic insects can better tolerate pollution and disease.

This year's finalists represent remarkable talent in our state and this awards luncheon recognizes their accomplishments. The winner received a \$1,000 cash award and the two runner-up finalists each receive a \$500 cash award.

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Congratulations to Adith Arun of the Synopsys Sacramento Regional STEM Fair & congratulations to all of the participants!



CALENDAR OF EVENTS

- September 30 - October 1** - Career GPS @ Cal Expo
- October 2-3** - CSTA Conference @ the Sacramento Convention Center
- October 3** - Broadcom MASTERS Semi-Finals
- October 10** - Expanding Your Horizons Conference @ California State University, Sacramento
- November 23** - Student Registration Deadline for ALL projects
- Spring 2016** - Synopsys Sacramento Regional STEM Fair (Tentative Dates: April 1 & 2, 2016)

TEACHERS!

Need STEM Fair Presentation Boards for your Students? Our sponsoring organization, the Synopsys Outreach Foundation is accepting applications NOW to help you help your students compete in upcoming STEM Fairs! Visit their website to apply! www.outreach-foundation.org

SPECIAL THANK YOU TO OUR SPONSORS

We'd like to extend a special THANK YOU to our most recent sponsor for this Fiscal Year, the Synopsys Outreach Foundation.



The Synopsys Outreach Foundation has sponsored the Fair for the past three years - we definitely wouldn't be where we are today without your help! We're extremely appreciative of all your organization does to help our Foundation.

SCIENCE SPOTLIGHT

New Safe Human Virus?

Scientists have recently discovered a virus (human pegivirus - HPvG) lurking in blood samples of patients who had blood transfusions between 1974 and 1980 - back when there were not as many restrictions on who could donate blood. The interesting thing about this virus is that while it is

TEACHER RESOURCES: START EARLY!

Now is the time to submit your questions and request STEM fair presentations to kick start your year! During these STEM fair presentations, a staff member will attend your class or after school program to help with student registration for the Synopsys Sacramento Regional STEM Fair. We can review what the project board requirements look like and what the day of the Fair will entail. **THE STUDENT REGISTRATION DEADLINE IS NOVEMBER 23** so we hope that your class will be able to join us for the 2016 Fair.

Please do not forget to use our website - it has been organized with you in mind! Some resources found on our website are below for your convenience.

HOW TO PUT TOGETHER YOUR BOARD. A sample sheet explaining how to put together a Science Project Board or an Engineering Project Board is now [available online here](#)

ENGINEERING INFORMATION. Links with information specifically on Engineering Projects are now [online here](#)

SCIENCE INFORMATION. Links with information specifically on Science Projects are now [online here](#)

PAPER REGISTRATION. Paper registration is available upon request. However, a paper registration to view while assisting your students during the online registration can be helpful. [Download it here](#)

DEADLINES. If you or your students are struggling with the deadlines, PLEASE do not be discouraged. Send us a note (ncompton@sacSTEMfair.org) and we would be happy to discuss!

STUDENT SCHOLARSHIPS: OWLPAK PROJECT BOARD KITS

The Synopsys Sacramento Regional STEM Fair has received another generous in-kind donation from OWLPAKS. We are offering the donations to students as scholarships for their Fair projects!

What is it? Everything you need to create your project board for the STEM Fair. The kit includes items like a tri-fold board, photo paper, vinyl lettering, scissors, markers, glue and more! Get your board supplies delivered right to you!

How to apply: Please send Nadia Compton, the Coordinator, a request at ncompton@sacSTEMfair.org. Please include your need, your grade, your school & teacher's name.

Applicants **MUST be registered for the 2016 Synopsys Sacramento Regional STEM Fair

OWLPAKS is a school supply company whose ultimate mission is to help schools become a haven for learning and fun, by increasing student readiness while diminishing some of the stress. Your school can partner with OWLPAKS too! Any school, teacher, or PTA can create prepackaged school supply kits that ship DIRECTLY to parents' homes, complete with all tools needed for the school year! For more information on how your school can set up their very own OWLPAKS, visit: www.OWLPAKS.com today!

EARLY BIRD REGISTRATION FOR EXHIBITORS

Be a part of the 2016 College & Career Expo ... Inspire, Engage, & Support
The NorCal STEM Education Foundation invites local and regional partners to attend and exhibit at the College & Career Expo held concurrently with the Synopsys Sacramento Regional STEM Fair! All exhibitors are welcome - hands-on STEM exhibits and showcases are encouraged.

infectious it's not *pathogenic* (meaning it can be transferred between humans, but it doesn't seem to cause any signs of disease).

Most people are aware of the existence of non-pathogenic bacteria (like the "pro-biotics" in yogurt), but not many are aware that the same behavior can exist in the form of viruses. In fact, patients coinfecting with the human hepatitis virus (formerly known as Hepatitis G) and HIV have been observed to survive longer than those without HPV. More research must be done to confirm that these findings are little more than correlation.

Read more about this recent discovery [here](#).

The Difference Between Dogs and Wolves

A new paper by animal behaviorist Monique Udell of Oregon State University shows that when faced with a problem, like getting a treat out of a sealed container, dogs will often look to their owners for help where wolves will attempt to figure out the solution themselves.

Udell subjected 10 pet dogs, 10 shelter dogs, and 10 wolves raised by humans to the following test: the animals were allowed to sniff a sausage before it was put into a sealed container with a rope attached to the lid. In order to get the sausage, the animals would simply need to hold down the container while pulling on the rope. The pet dogs were not as persistent in trying to open the container in any of the several conditions presented to them, while the wolves were. In all cases, the pet dogs spent far more time looking at the humans than the wolves. You can read more about these experiments [here](#).

EARN A PUBLICATION Before you go to college!

How would you like to be a published scientist? The International High School Journal of Science is looking to include your research in their next issue! So, get your thinking cap on, and prepare an original and innovative research report. Their editorial and advisory teams of high school science teachers, university professors, and researchers working in Research and Development divisions of companies and in government labs will evaluate the reports and select the best among the submissions. For more information on the format of the report and contact details, visit www.ihsjs.com/submission.

OTHER COMPETITIONS

Featured Competition:

Intel Science Talent Search. The Intel Science Talent Search (Intel STS), a program of Society for Science & the Public (SSP) is the nation's most prestigious science research competition for high school seniors. The application for Intel STS 2016 is now open for US students who will be in their last year of secondary school in November 2015.

Application due: November 4, 2015

For more information visit:

www.student.societyforscience.org/intel-sts



Exhibits are always open to the public and will be visited by the region's students, parents, teachers and more! Join us for the event - a great way to reach out and market! The attendees will include the participating STEM fair students, teachers and parents as well as the public - that's over 1,500 people! Bring your hands-on activities and showcase your support for STEM education. The exhibit space includes an open-air space approximately 10'x10' in size, two chairs, a table, and free lunch - you will have plenty of room to involve students and parents in your demonstrations! You can even reserve multiple exhibit spaces.

All exhibitors will receive a listing in the program, a feature in our newsletter, and recognition on our website. Fee waivers and/or reduced fees are available for some non-profits and state organizations. All sponsors of the Fair automatically receive a free exhibit space regardless of in-kind or monetary sponsorship.

LIMITED SPACES ARE AVAILABLE, RESERVE YOURS TODAY! (A schedule of events will be posted in the near future for exhibitors' information).

[Sign up here](#)

FOUNDATION INTERNSHIPS AVAILABLE

The NorCal STEM Education Foundation is looking for two energetic, hardworking and dedicated individuals who are interested in making a difference and contributing to the community. Our mission is to engage and inspire students to become interested in pursuing scientific, technological, engineering, and mathematical (STEM) degrees and careers. We are looking for two Outreach & Event Organizer interns to begin as soon as possible to April 30, 2016. The interns will work primarily with the Coordinator for this dynamic fast-growing Foundation, and assist the staff in a number of activities, special projects, research assignments and administrative duties. The main focus of this position is to promote, develop and support the programs. We are a regional association with a small office so we produce a lot of work with a very quick turnaround. If you are enrolled in a college or university, we will work to ensure you are able to obtain college credit. We can offer great letters of reference, and assistance and referrals for future employment. This position is unpaid. For consideration, please send resume to Nadia Compton:ncompton@sacstemfair.org.

MIT THINK Competition. The THINK Scholars Program is an educational outreach initiative that promotes science, technology, engineering, and mathematics by supporting and funding projects

developed by high school students.

Applications open: October 1, 2015

For more information: www.think.mit.edu

STATE SCHOLARSHIPS TO STUDY ABROAD

The U.S. Department of State recently released news of scholarships for American Students to study abroad. Applications are now being accepted for several study abroad programs for U.S. high school students. These merit-based scholarships include international airfare, tuition, and program costs, as well as meals and living accommodations (often with a host family). The programs have no language prerequisites, and gap year students are encouraged to apply as long as they meet the age requirements. Please note that each program has a separate online application process, and application deadlines vary from late October through early January. Visit www.exchanges.state.gov for specific information and application deadlines today!