



## 2015 FAIR WINNERS – CONGRATULATIONS

Pack the project boards! Three Grand Prize winners from the Synopsys Sacramento Regional Science & Engineering Fair are getting ready to face tough international competition following a strong showing the March 14th Fair.

For the second year in a row, Prem Talwai, a senior at Mira Loma High School in Sacramento, will represent the region at the Intel International Science & Engineering Fair (ISEF). He placed first overall at Saturday's fair with his project titled "Model Order Reduction of Cell Signaling Pathways – An Investigation of the Invasive Mechanism of Ebola Virus." His project research attempts to simplify the process for Ebola virus testing. Last year, Talwai placed fourth overall in the math category at Intel ISEF.

Finishing second overall at this year's regional fair was Maya Jayanth, a sophomore at Mira Loma High School in Sacramento. Her project titled "Designing and Creating a Primer to Detect Multiple Viruses" researched ways to improve virus detection for farmers, reducing the amount of crop loss and financial damages.

Finishing third overall was Nathaniel Varghese, a senior at Folsom High School, with his project titled "Advancing Western Blotting: Improving the Sensitivity of Protein Detection with Smaller Well Engineering." His project Attempted to improve the ability of scientists to identify proteins by

enabling them to use smaller sample sizes.

All three Grand Prize winners will now go on to compete at the Intel International Science & Engineering Fair to be held May 10-15 in Pittsburgh, Pennsylvania. Historically, Sacramento's representatives have placed very well at the international level.

Overall, hundreds of students participated in the annual Synopsys Sacramento Regional Science & Engineering Fair. Projects covered a range of topics working to solve problems and make discoveries in areas of science, engineering, medicine and transportation.

First place winners from each category in the middle school and high school division also qualify to compete at the California State Science Fair.

A complete list of winners has been posted online at [www.sacSTEMfair.org](http://www.sacSTEMfair.org).

The Fair is a partnership of the Sacramento Regional Science & Engineering Fair Foundation (SRSEFF) and the Synopsys Outreach Foundation with additional funding from Intel, Liberty Mutual Insurance, the Professional Engineers in California Government (PECG), the California Association of Professional Scientists (CAPS), Aerojet, and many others.

## THE AFTERMATH

It has been a bit crazy around Headquarters as we cleaned up from the aftermath of the Fair, but we're finally pleased with the relative level of "Fair debris" that is left. What does this mean for you? We can finally start delivering the unclaimed awards! Look out for a package in the mail or a special delivery to your school in the next few weeks. The additional trophies have not come in yet, but as soon as they do, you'll be the first to know!

## CALENDAR OF EVENTS

**April 6** - California State Fair Application Deadline

**May 10-15** - Intel ISEF in Pittsburg, PA

**May 18-19** - California State Fair

## CONGRATS AGAIN TO ALL OUR 2015 WINNERS!

Visit [www.sacSTEMfair.org](http://www.sacSTEMfair.org) to view the list!

## FEATURED ARTICLES

**Sacramento Bee:**  
[Article 1](#), [Article 2](#)  
**Folsom Telegraph**  
**Auburn Journal**

## PICTURES FROM THE 2015 FAIR ARE NOW ONLINE

Visit our website: [www.sacSTEMfair.org](http://www.sacSTEMfair.org) for links to them!

# THANK YOU JUST DOESN'T COVER IT!

## 2015 SURVEYS

We have so many people and organizations to thank for helping the Sacramento Regional Science and Engineering Fair Foundation organize and hold the 2015 Synopsys Sacramento Regional STEM Fair! Our success is determined by our community support – so based on what we saw this year, we are truly and absolutely successful! We had all new sponsors and tons of support for the College & Career Expo with over 50 exhibitors!

The Synopsys Sacramento Regional STEM Fair featured a multitude of student projects from around the greater Sacramento region including the following counties - El Dorado, Placer, Sacramento, San Joaquin, Shasta, Sutter, Yolo and Yuba. We had students from 58 schools attend - our largest turn out yet! We introduced the Novice category this year, which meant that the participating student would not be judged – it was met with great enthusiasm, thus, next year it will be its own Division!

Our volunteer judges never cease to amaze us with their support and dedication to our mission of engaging and inspiring students to become interested in pursuing STEM degrees and careers. We had a great turn out of judges this year from all of our sponsoring organizations like Intel, the California Association of Professional Scientists (CAPS), the Professional Engineers in California Government (PECG), UC Davis, CSUS and many more!

**Thank you ALL so much for attending the 2015 Fair - let's make 2016 even better!**

**Please take some time and help us by filling out our one of our short surveys:**

[Student Survey](#)

[Judge/Volunteer Survey](#)

[Teacher/Adult Sponsor Survey](#)

[Exhibitor Survey](#)

[Attendee Survey](#)

## SUMMER IS FAST APPROACHING!

### TELL US ABOUT YOUR SUMMER

It's almost Summer Vacation, hooray! We want to know what YOU plan to do in STEM this summer! Will you go to a science summer camp? Will you start experimentation (make sure to shoot us a quick email so we can put your experiment through SRC if you intend to use it for next year's Fair!)? Don't be shy – we will accept stories from students, teachers, even parents! Submit your stories to [sacSTEMfair@sacSTEMfair.org](mailto:sacSTEMfair@sacSTEMfair.org) and we will publish them in the next Beaker!

### OUR "SUMMER VACATION"

Science never sleeps! We are already beginning preparation for our 2016 STEM Fair. We are re-vamping the website to make it easier for everyone to maneuver - we know that there is a LOT of information to take in when completing a STEM fair project, and we want to be as helpful as possible! We will also be tweaking the online registration to make it easier for students, parents and teachers to complete and check their registration status. We will also be launching a new STEM Fair website at the end of April, so check back then to see all of our exciting new updates! Finally, we will be reducing the frequency of Beaker issues to bi-monthly as many students are preparing for a summer vacation filled with science!

## UPDATE:

## THE REGIONAL STEM MENTORING PROGRAM

With the end of the STEM Fair and summer approaching, the first year of the Regional STEM Mentoring Pilot Program is coming to a close. We had a great turn out of students who participated in the program who also attended the Fair, either as competitors, showcase students or general attendees. The program received great preliminary and midterm reviews, the final reviews will be in by summer.

Currently, the Foundation is writing grants and looking for sponsors for the program. We do have a school waitlist for the program, and the more schools interested, the better the program will be funded.

Please email [sacstemfair@sacstemfair.org](mailto:sacstemfair@sacstemfair.org) if your school is interested in beginning a STEM Mentoring program for the 2016 school year!

## OTHER COMPETITIONS

*Featured Competition: Google Science Fair*

The Google Science Fair is a global online science and technology competition open to individuals and teams from ages 13 to 18. The Competition Period began on February 18 and is open until May 18, 2015 at 11:59:59 PM, PST. Students can enter a project in the following categories as individuals, pairs or teams of 3:

Natural Sciences Category, Physical Design & Engineering Category, Pure Sciences Category, Space & Physics Category, Computer Science & Math Category.

For more information, visit:

<https://www.googlesciencefair.com/en/>

## SCIENCE SPOTLIGHT

### Straight through the middle!

Ever wondered how long it might take to get to the other side of the Earth by going straight through the center? A physicist from Montreal thinks he's figured it out. Read about his calculations here:

<http://www.livescience.com/50312-how-long-to-fall-through-earth.html>.

### Hay there!

Achoo! Spring is here, as many allergy sufferers will be sure to tell you! Why not take advantage of the warm weather by planting your own eco-friendly, space saving straw-bale garden! As long as you're not allergic, of course! Find out how here:

<http://modernfarmer.com/2013/07/straw-bale-gardening/>.