

NorCal STEM Education Foundation The BEAKER



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REGISTRATION IS NOW OPEN!

Visit us online, or request a paper copy today!

Get registration done before your homework starts piling up! It might seem far away, but the 2016 Synopsys Sacramento Regional STEM Fair Registration Deadline is right before Thanksgiving Break!

Monday, November 23, 2015 at midnight PST is the registration deadline for all projects. Our Scientific Review Committee (SRC) must review and approve ALL projects for safety and effective protocols. The reason that the projects need to be pre-approved so early, is to account for projects that may need some tweaking for safety purposes before experimentation can begin. This way, no one completes a project that could be dangerous to them or those around them. Full details regarding projects needing SRC approval can be found on our website: www.sacSTEMfair.org. (Approval of projects submitted after this deadline will be subject to the availability of the Scientific Review Committee.)

There is more than one way to participate in this year's STEM Fair. You can compete - complete a STEM project and explain it to the STEM professional volunteer judges that stop by your project display while vying for first place in the **Competing Division***; or you can showcase by entering into our **Showcase Division** - all the fun of competition without the stress of defending your project to the judges. In the Showcase you'll still meet and talk to judges, but they won't actually be judging you! Remember, the STEM Fair isn't just about the projects, there's also a College and Career Expo and tons of workshops to attend that day, too! It's a day full of STEM Excitement! We can't wait to see you there!

To register in the **Competition Division** (6th-12th Graders eligible), click [here](#).

To register in the **Showcase Division** (5th-11th Graders eligible), click [here](#).

*The Competing Division is split between Middle and High school competitors.

ALUMNI ACTIVITY

We're checking in with our past winners to see what they've been up to. In our second installment of this column, we've decided to check in on 2014 Synopsys Sacramento Regional Science & Engineering Fair Third-Place Grand Prize Winner, Dhruva Biswas, a Mira Loma High School alumnus. Her project "Differentiation of Hepatocytes from Human Embryonic Stem Cells Cultured under Zeno-Free and Feeder Free Conditions," researched the use of human stem cells to generate adult liver cells to treat liver diseases and went on to win fourth place in her category at the 2014 Intel International Science and Engineering Fair.

Since her big win, Biswas has been busy as a bee! She received a full tuition scholarship to study at Boston University in the Department of Biochemistry. She has also been working at the Institute for Regenerative Medicine at Harvard in the Brigham and Women's Hospital for the past year.

Currently, she is writing a review on the therapeutic uses of mesenchymal stem cells and umbilical cord stem cells in the treatment of leukodystrophy and multiple sclerosis. She is also a Health Leads Advocate at the Boston Medical Center, and she serves on the Academic Outreach Committee of the Boston University Student Government.

CALENDAR OF EVENTS

September 12 - Folsom Powerhouse Electricity Fair

September 19 - Girl Scout GLOW Conference at Lyons Gate Hotel

September 22 - Siemens Competition Entries Due

September 30 - October 1 - Visit the NorCal STEM Education Foundation booth at Career GPS at Cal Expo!

October 3 - Broadcom MASTERS Semi-Finals

November 23 - Student Registration Deadline for ALL projects

Spring 2016 - Synopsys Sacramento Regional STEM Fair (Tentative Dates: April 1 & 2, 2016)

WELCOME BACK!

Welcome back to school! The school year has officially started for most of our students. We know you are so excited for this new school-year and so are we! Send us your STEM-filled summer stories and you could be included in the next issue of

The Beaker!

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 sponsors for this Fiscal Year, the California Association of Professional Scientists. CAPS has sponsored the Fair since before it was run by the NorCal STEM Education Foundation, and 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.



We'd also like to extend a special thank-you to the Boys and Girl's Club and NorCal STEM Education Foundation Board Member Terry Escarda for their generous donations to help the Foundation thrive.

During her free time (that she somehow manages to have while maintaining that busy schedule!), Biswas enjoys playing outdoors on her new electric violin! Later this year she will begin training to become an EMT.

We're exhausted just reading about all that Dhruba has accomplished so far. How about you?

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3. Order the Science Fair Pak corresponding with your needs!

*Remember: You can add or remove supplies to fit your budget and needs!

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THE REGIONAL STEM MENTORING PROGRAM

Currently, the Foundation is writing grants and looking for sponsors for the Regional STEM Mentoring Program. We do have a school wait list for the program, and the more schools interested, the better the program will be funded. We do have other options in place - the school can provide the materials needed, while we provide the mentors, or we have purchasing plans available. Prices vary by location, but here is an example: for a class of twenty students with two mentors for twelve weeks, the cost breakdown is just ten dollars per student per week! Please email sacstemfair@sacstemfair.org if your school is interested in beginning a STEM Mentoring program for the 2016 school year!

We need mentors for the 2015-2016 Mentoring Program! Mentors do not need teaching experience, nor do they need to develop the curriculum. Foundation Staff will provide you with training and easy-to-follow curriculum guides! CAPS and PECG members are eligible for mentoring leave time, as well. Check your respective MOU for your organization's particular policy. If you're a STEM professional, and you'd like to be a STEM Mentor, please fill out the application [here](#).

VOLUNTEER!

There are many ways to participate in the 2016 Synopsys Sacramento Regional STEM Fair. You don't have to be school-aged to participate either! Our entire event is volunteer-run, so we need your help! Our volunteers run everything from the snack booth to the on-site registration, and everything in between. If you have some spare time (or are a parent of a competing student), volunteering with the Fair can be a great way to kill some time, have some fun, and get free food! If you'd like to volunteer, click [here](#) to sign up!

Are you a STEM Professional? Regular volunteer duties aren't the only way to participate. Judging is a vital part of any STEM Fair, and ours is no different. We need your expertise! As long as you can be impartial and have no obvious conflicts of interest (sorry folks, if your child is competing in the High School Division, you can't be a High School Division Judge!), WE NEED YOU! We provide judge's training, free food, and we keep the coffee flowing! Click [here](#) to learn more and sign up. And don't forget to join us the day before the event for the Judge's Orientation and Dinner where you'll learn the ins and outs of judging a competition of this caliber!

SCIENCE SPOTLIGHT

Mom was Right!

Aric Prather, PhD, assistant professor of Psychiatry at UC San Francisco has recently published a study that suggests getting enough sleep will keep you from getting sick. At least, not getting enough sleep makes you more likely to catch a cold. People who slept less than six hours per night, regardless of age or other factors, were four times more likely to catch rhinovirus (the common cold) than their well-rested counterparts. You can read more about the study [here](#).

Slower Melting, Healthier Ice Cream!

Researchers at the University of Edinburg and Dundee have developed a method of producing a new protein - which is naturally occurring in some foods, that can be used to make ice cream that is more resistant to melting than its traditional products. The protein links together the air, fat and water in ice cream, which has the added benefit of creating a super-smooth consistency.

Because of the protein's ability to produce a smoother ice cream, it is likely that less saturated fat will need to be used to keep the ice cream silky smooth. You can read more about their discovery [here](#).

OUTREACH

Outreach, outreach, OUTREACH! The NorCal STEM Education Foundation is committing this year to getting the word out about all that we do! One of our biggest hurdles is that people simply don't know that we exist! We're doing all we can to change that by simply getting out and TALKING to people. We need your help! Tell everyone you know about the plethora of programs the NorCal STEM Education Foundation has to offer. To brush up on our programs, or to learn more, visit our website at www.sacSTEMfair.org!

Are you a past Synopsys Sacramento Regional STEM Fair Participant who enjoys being around and speaking in front of people? Do you still have your STEM Fair Project? Then contact us today to find out how to participate in local events in your neighborhood! Email us at sacSTEMfair@sacSTEMfair.org to find out more!

OTHER COMPETITIONS

Featured Competition: Siemens Competition

Synopsys Sac STEM Fair participants! It is not too late - the Siemens deadline to register is: September 22, 2015!

Launched by the Siemens Foundation in 1999, the Siemens Competition in Math, Science & Technology recognizes remarkable talent early on, fostering individual growth for high school students who are willing to challenge themselves through scientific research. Through this competition, students have an opportunity to achieve national recognition for science research projects that they complete in high school, as they vie for college scholarships ranging from \$1,000 up to \$100,000. For more information, visit: <http://www.siemens-foundation.org/>

Featured Competition: Broadcom MASTERS

The Broadcom MASTERS Semi-Finals are set to take place on Saturday, October 3, 2015 from 1-4 p.m. at the Computer Science Museum in Mountain View. SSP - affiliated science fairs around the country nominate the top 10% of 6th, 7th and 8th grade students to enter this prestigious competition. We wish all competitors the best of luck!!

INTERNSHIP OPPORTUNITY

The NorCal STEM Education Foundation is looking for some additional help running our many events! We are looking for people who reside in the greater Sacramento region to help us with general office duties as well as occasional outreach events. You would get to see the ins and outs of large event planning and Foundation Program Management. Time management skills and a willingness to learn new things are a must, and computer skills are helpful. This is an unpaid internship.

Get Social with us

