

# NorCal STEM Education Foundation The BEAKER



Issue 27, March 2, 2016

## STUDENT TIMELINE FOR EVENT

**FRIDAY NIGHT - STUDENT CHECK-IN** Student check-in on Friday night begins at 6PM and closes at 9PM. Friday night check-in is encouraged, but not mandatory for students. If you have a transportation issue and are unable to attend student check-in on Friday night, the doors will open at 7AM on Saturday for student check-in. Students should arrive and have their project display set up by 8:30AM Saturday to ensure that their projects are set up for judges to preview from 8:30AM-9:30AM. This is a MUST.

**\*\*Students in the Showcase Division MUST check-in before 9:30AM, if unable to arrive prior.\*\***

**Project Check-in**  
We have worked hard all year updating the processes and improving check-in for all participants. Here are items of note to help keep the process simple:

1. We will have a separate line for multiple project check-in - if you are a teacher or parent who plans to bring multiple projects to check-in on Friday night, please look for the signs and join the correct line labeled "multiple project check-in."
2. All projects will be looked at critically for items that are not allowed at your project display. If you are attempting to enter with one of these items, you will be asked to place it back in your vehicle prior to entering the project hall. The [Items Not Allowed At Your Display](#) list is online.
3. There will be multiple volunteers to help direct you to the proper line for check-in as well as to assist you in finding the correct table for your project. The lines include High School, Middle School, and Multiple Project Check - in.

## SATURDAY - THE FUN BEGINS

Doors will open at 7AM on Saturday for project check-in. Students should arrive and have their project set up by 8:30AM Saturday to ensure their projects are ready for judges to preview from 8:30AM to 9:30AM. We have encouraged all students to register online prior to the Fair. On-site registration will be available; however, there will be no guarantee there will be an available table for your project to be displayed. Please contact us at [sacSTEMfair@sacSTEMfair.org](mailto:sacSTEMfair@sacSTEMfair.org) to ask us about registering.

### Student Orientation

Our welcome event is a short presentation for students (and parents) to attend from 9:00AM-9:30AM on April 2nd in the Cafeteria. This presentation will review the schedule of events as well as give students a few pointers for a successful day at the Fair! It is **mandatory** that all students attend.

### Student Interviews/During Judging

The student interviews will take place from 9:30AM-2PM in the gym. During these hours, students are required to stay at their project and wait for judges. We understand that students may get hungry or need to take a break. This year, students will be given a tent card at their table which will read "Be back in 5 minutes." The students can place these tent cards so that they are clearly visible in front of their project displays so that they may use the restroom or run to get a snack! We also suggest that all students meet a "Fair Buddy" - a student participant whose project is near theirs who can let judges know that they will be returning shortly. This will help ensure that all students can have freedom to use the restroom or grab a snack without the anxiety that they might miss their judge!

## CALENDAR OF EVENTS

**April 1** - Project Set up & Judge Orientation at American River College

**April 2** - Synopsys Sacramento Regional STEM Fair and College & Career Expo at American River College

**COUNTDOWN: 31 DAYS UNTIL THE FAIR!**

## SPECIAL THANK YOU TO OUR SPONSORS

We'd like to extend a special **THANK YOU** to our most recent sponsor for this Fiscal Year, Professional Engineers in California Government (PECG).



PECG has supported the Foundation and the Fair in a multitude of ways for many years. We're extremely appreciative of all your organization does for the students!

## STUDENT REGISTRATION CLOSED? WHAT DO I DO?!

Please feel free to contact the Coordinator, Nadia Compton, at [ncompton@sacSTEMfair.org](mailto:ncompton@sacSTEMfair.org) with any questions or concerns about the registration process. We will find a way for you to join us!!

## ARE YOU A STATE WORKER LOOKING TO DONATE THROUGH "OUR PROMISE" (formerly CSECC)?

The donation website for "Our Promise" has been taken offline, but state employees can still make their donations the old-fashioned way! The Sacramento Regional Science & Engineering Fair Foundation (dba NorCal STEM Education Foundation) hopes you will elect to donate to our organization! We've even prepared the form for you with our information to make it simple. [Use the Our Promise form with our information here.](#)

## Memorabilia Purchases

The NorCal STEM Education Foundation will be selling bumper stickers, shirt buttons, and pins to commemorate the occasion and help raise funds for other Foundation programs.

## PIN CONTEST

Do you consider yourself somewhat of an artist? If so, we want you to help us design our 2017 STEM Fair pin! Each year, the NorCal STEM Education Foundation provides pins to participants at the Synopsys Sacramento Regional STEM Fair to commemorate the event. These pins travel with the winners who go on to compete in the Intel International Science and Engineering Fair and are traded among competitors from all over the world! Imagine YOUR design traveling to Europe, Asia, even Australia!

The contestants for the Pin Design Competition will be featured on-site at this year's Synopsys Sacramento Regional STEM Fair and the winner will be named at the Awards Ceremony that evening.

All you have to do to enter is [submit your contact information and design here](#). No later than Sunday, March 27, 2016.

All designs should be scalable (submitted in EPS format). Designs will be displayed in color in two sizes for voting. Designs will be displayed on one side of one 8 ½ by 11-inch piece of paper. Designs will be shown in a print area of 4x6 and a pin preview thumbnail of 1 ½ by 1 ½ inches. Winning pins will be manufactured no larger than 1 ½ x 1 ½ inches. Pin designs should state "2017" and "Synopsys Sac Regional STEM Fair."

The chosen pin is subject to change to reflect the name of the 2017 Fair.

Individual submissions only. Contest is limited to students in grades 5-12 that reside in the NorCal STEM Education Foundation's service area. To view our service area, [visit our website](#).

Here are some of our past pins for inspiration!



## CHECK OUT OUR WORKSHOPS FOR ALL!

The Synopsys Sacramento Regional STEM Fair has beefed up its workshop and panel breakouts for all to attend! Below you will find a short description of each activity that the public and all students, teachers, parents and volunteers are welcome to attend.

### College Admission Workshop

Sponsored by Creative Marbles Consultancy

Wondering how to apply for college? Problem solved! A College Admission workshop will be presented by Creative Marbles Consultancy at the Fair! The presentation will provide admissions consulting for students and parents, and college guidance on all aspects of the admission process, with the goal of helping students make their applications as



College Admission Workshop



Financial Planning Workshop

## SUPPORT THE FOUNDATION SIMPLY BY SHOPPING FOR GROCERIES

Do you shop at Raley's, Bel-Air, or Nob Hill? If so, please join the Extra Credit program for the Sacramento Regional Science and Engineering Fair Foundation. [See instructions on how to sign up here](#). It's all online and just a few simple clicks to support the Foundation!

### SCIENCE SPOTLIGHT

#### BLACK WIDOW'S INVISIBILITY

A new Duke University study determined that while the black widow spider's red hourglass is extremely visible to birds and humans as a warning of its venomous characteristics, insects cannot see the color red as well as other organisms. Insects and birds are sensitive to different wavelengths of light, so while the red hourglass appears striking and obvious to birds, it doesn't seem to prevent wayward insects from walking too near the spider for comfort. Read more about the study [here](#).

#### PROJECT INSPIRATION: HOWLER MONKEYS

Howler Monkeys are dying of unknown causes in Nicaragua, Ecuador and Panama. No one knows why the sudden population decline is taking place, but some of the current hypotheses include: Zika Virus (the "it virus" of 2016), lack of food or water, contact with pesticides, and other viral possibilities like yellow fever. To read more about the Howler Monkey's recent decline, visit [this article](#).

#### GRAVITATIONAL WAVES!

After years of searching, physicists have finally discovered gravitational waves. The waves are ripples in the fabric of space-time that were first theorized by Albert Einstein. While scientists knew they existed, it hadn't been proven until recently. So, what are gravitational waves? Let's use the spandex analogy of general relativity. Think of space-time (it's one thing) as a stretchy piece of spandex fabric that has been stretched out. Now, imagine that someone puts a half-pound metal ball in the middle of the piece of fabric - the spandex will stretch out around the ball. Now, if you were to put another small ball on the spandex, it would roll toward the other ball - it's not necessarily that the large ball is pulling the smaller ball towards it, but rather space-time is shaped so that the smaller ball moves towards the large one. Now, imagine instead of setting the large ball on the fabric gently, you drop the ball from some height. You would likely see ripples in the fabric as though you dropped the ball into a pool of water, right? These ripples are gravitational waves, or the movement of space-time. Neil deGrasse Tyson explains it better [here](#).

## OTHER COMPETITIONS & SCHOLARSHIPS

### Featured Scholarship: SAFE Credit Union

SAFE is accepting scholarship applications from outstanding students. If there's an exceptional college-bound student in your household and you live in Sacramento, Contra Costa, Placer, Nevada, Yolo, Amador, Solano, San Joaquin, Sutter, Butte, El Dorado, or Yuba counties, he or she may qualify to receive a \$1,000 scholarship from SAFE Credit Union.

Ten \$1,000 scholarships are available. Applications will be reviewed by a panel of judges, and finalists will be chosen based on the following criteria: academic achievement, financial need, personal

statement, letters of recommendation, and

competitive as possible. Financial aid advice will also be provided - information on what colleges may expect individual families to pay, and recommendations on how to afford increasing college costs including scholarship options. This workshop is for all participants who need help during that crucial period of college admissions!



Student Excellence Panel

#### **Financial Planning Workshop**

*Sponsored by Golden 1 Credit Union*

Make your allowance last! There will be workshops given at the Fair about making your allowance work for you! Golden 1 places a great emphasis on teaching students how to become responsible savers. The credit union has designed several workshops to help our community's youth develop the financial skills needed to excel in adult life.

#### **Student Excellence Panel**

*Sponsored by NorCal STEM Education Foundation*

Hear from past 1st and 2nd place high school winners in this prestigious panel moderated by Ramesh Vasu of Ramesh Innovations who sponsors the Ramesh Innovation Award. The students will talk about their previous Fair experience as well as stories from other competitions. Learn about their college admissions process and experience. Hear what they have to say about the Fair and how it helped them decide their pathway to STEM.

#### **Energy & Electricity Education**

*Sponsored by SMUD and California State Parks*

This exciting hands-on workshop for teachers will introduce fun energy and electricity activities to use in your classrooms. The activities engage student senses and will give them a sneak peak of the Electricity Fair that SMUD and California State Parks organize and host annually at the Historic Folsom Powerhouse in the fall.

#### **Solar Cooking Workshop**

*Sponsored by California Sunlight*

California Sunlight will host a solar cooking workshop for teachers providing inexpensive and entertaining solar cooking activities to take back to your class to demonstrate how fun and delicious learning about solar energy can be.

#### **Are You Raising a STE@M Superstar?**

*Sponsored by InVINCIble Enterprises*

Please join Cari Vinci of InVINCIble Enterprises and coauthor of the book, Playbook for Teens, as she explores how you can be sure you are raising a Science, Technology, Engineering, Art or Math SUPERSTAR in this fun 30 minute workshop for parents.

#### **STEM Industry and Education Panel**

*Sponsored by NorCal STEM Education Foundation*

This Q&A panel for students, parents and teachers will feature local STEM industry and education leaders who will share their personal stories about overcoming challenges throughout their college and career pathways. They will introduce STEM and Career Technical Education programs available at local colleges and universities in addition to resources available throughout our region.

statement, letters of recommendation, and community involvement.

Scholarship applications are available online, at all SAFE branches, or by calling SAFE at (916) 979-7233 or (800) SEE-SAFE.

Applications must be postmarked no later than **Monday, March 7, 2016** and addressed to:  
SAFE Credit Union  
Attn: Marketing  
2295 Iron Point Road, Suite 100  
Folsom CA 95630-8765

#### **Featured Scholarship: University of California, Davis Young Scholars Program**

Participants in the Young Scholars Program will work one-on-one with research faculty and research groups in state-of-the-art laboratories for six weeks. Each student will work on an individual project and prepare a journal quality paper and symposium presentation about their work. At the same time, each student will experience the climate and culture of living and working on a university campus.

To be eligible to participate in the UC Davis Young Scholars Program for the summer of 2016, an applicant must currently be enrolled as a sophomore or junior in high school. In addition, the applicant must be at least 16 years of age on June 19, 2016 but not 18 before July 30, 2016.

**Online applications must be submitted by 11:59 PM, March 17, 2016**

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### **WORKSHOP AT THE FAIR: SAFE CREDIT UNION BRINGS REAL LIFE TO YOU!**

SAFE Credit Union will be hosting their "Reality Fair" at the 2016 Synopsys Sacramento Regional STEM Fair hosted by American River College! During the Reality Fair, students will be given a "background" (what kind of job you get, will you have kids?, a spouse?, etc.), then students will be sent on their way to budget

### **STUDENT SCHOLARSHIPS: OWLPAK SCIENCE FAIR KITS**

The Synopsys Sacramento Regional STEM Fair has received in-kind donations from OWLPAKS - a great organization and we are offering the donations to students as scholarships for their Synopsys Sacramento Regional STEM Fair projects!

OWL PAK -- What is it? Everything you need to create your project board for the STEM

and "buy" a car, housing, entertainment, babysitting (if necessary), and other essentials using their "monthly income" that was previously established for them in their "background." Its lots of fun and highly educational!

The workshop takes approximately two hours, and space is limited, so [sign up online](#) today!

\*\*Applicants do **NOT** need to be registered for the 2016 Synopsys Sacramento Regional STEM Fair to participate. Space is limited!

Fair. The trifold board, photo paper, vinyl lettering, scissors, markers, glue and more! Get your board supplies delivered right to you!

How to apply: Please send Nadia a request at [ncompton@sacSTEMfair.org](mailto:ncompton@sacSTEMfair.org). Please include your need, your grade, and your school & teacher's name.

\*\*Applicants **MUST** be registered for the 2016 Synopsys Sacramento Regional STEM Fair. Supplies are limited!

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## THE THIRD ANNUAL COLLEGE & CAREER EXPO, PRESENTED BY THE US ARMY FROM 2PM-5PM

Thank you to our registered exhibitors! Twenty exhibitors are registered so far for the College and Career Expo, presented by the US Army at the STEM Fair! Our third annual Expo will feature area colleges and organizations to promote STEM careers, education and promotion! The Expo will be held from 2PM-5PM on April 2nd at American River College. Here is a list of our exhibitors, see their exhibit descriptions online here:

Air Force ROTC  
American Medical Students Association  
Bayer Crop Sciences  
Bureau for Private Post-Secondary Education  
California Association of Professional Scientists  
California Highway Patrol  
California Northstate University  
California Sunlight Corporation  
Computer Information Science Department, Sacramento City College  
Gold River Discovery Center Photonics Club  
Golden 1 Credit Union  
Intel  
Local 104 Sheet Metal Workers  
MEL Chemistry  
Pasteur Middle School Solar Regatta Club  
Professional Engineers in California Government  
SAFE Credit Union  
US Bureau of Reclamation  
US Army  
William Jessup University