



# Community Resources for Science News

Weaving connections among teachers, students & science in the Bay Area

Volume 9, Issue 1

Newsletter, Spring 2011

## CRS Forms Advisory Council on Science Education

### Time: Overcoming the Great Constraint to Make Room for Science

“How can we effectively increase the amount of time that science is happening in classrooms?” That was the question the CRS Advisory Council on Science Education addressed during its inaugural meeting in April.

Led by Judy Scotchmoor, Director of Education and Public Programs at the UC Museum of Paleontology, the group of thought leaders from the fields of science, education, academia, museums and informal education, and philanthropy gathered to share their perspectives and experiences and to formulate effective, positive steps to improve science teaching and learning.

“It’s not hard to get kids excited about science – our challenge is getting teachers excited, and supported, about teaching science,” said Jennifer Sethasang, a 4th grade Oakland Unified School District (OUSD) teacher.

The group developed a series of action plans, focused on three main areas, for further work:

1. A public awareness campaign promoting science learning, including recognition for schools and teachers
2. Professional development for principals, to build understanding and practical support for the importance of science learning in strengthening student engagement and skills across the curriculum
3. Efforts to support teacher professional development in line with their needs, including effective ways to increase teacher excitement through convenient onsite training sessions and by connecting them with scientists and other “real world” resources.

We look forward to productive conversations and collaborations. Thank you to our founding Advisory Council participants:

*“It’s not hard to get kids excited about science – our challenge is getting teachers excited, and supported, about teaching science.” -- J. Sethasang*



Above: An elementary student pouring water during the CIC lesson “How to Get Renewable Energy From the Sun.”

- |  |  |  |
|--|--|--|
| <b>Judy Scotchmoor</b><br><i>Council Chair</i><br>UC Museum of Paleontology  | <b>Molly Fraker</b><br><i>Berkeley Public Ed. Fdn.</i>             | <b>Mohit Rajani</b><br><i>Google Inc.</i>                            |
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| <b>Robert Curtis</b><br><i>Alameda County Office of Education</i>            | <b>Alan Poon</b><br><i>LBNL</i>                                    |  |

## CIC Spotlight: Wishing *Bon Voyage* to Ailey Crow After Five Years

Long time CRS volunteer Ailey Crow has found that engaging third graders is not unlike presenting at conferences—though the latter requires fewer dramatic pauses and less dry ice.

During her 5 years as a Biophysics PhD student, Ailey has made novel contributions to the field of cell mechanics and left an impression on countless elementary school students through her monthly phase transition lessons as a Community in the Classroom volunteer.

“Going from the basement lab to being surrounded by 8- and 9-year-olds who are really excited about science and what you’re talking about helps you feel like you’re making a difference and inspiring them,” she says.

Being in front of a classroom, she says, is not so different from being in front of a scientific poster. Ailey has mastered the art of explaining material in a manner that engages her audience, whatever their age. “Adults may be more difficult to read than 8- or 9-year-olds, but it’s important to be able to tell when your concept isn’t getting across.”

While a crowning moment of Ailey’s academic career may be her hard-earned doctorate, a highlight of her time volunteering was when an 8-year-old asked for her



Above: Ailey in a classroom

autograph. And admiration is a two-way street. “Seeing how quickly the kids learn and how excited they are about science, it’s rejuvenating for when we go back and hit the bench.”

Her commitment also comes from being a research scientist. “A lot of our funding comes from the government. Having some form of paying back to the community is important, and science education is a great way to do that,” she said.

When Ailey and her team visit a classroom, they bring not only scientific know-how, but also test tubes, dry ice, and balloons that cause 3rd grade excitement to brim over. Despite the details & logistics, Ailey never loses sight of the larger picture & greater significance of her lessons.

“The hope is that getting them excited in elementary school will carry them through to be scientists in the future,” she said. “I’ve always thought that was more important than individual concepts.”

This dedicated CIC volunteer encourages her peers to go to schools. “For new people, it definitely helps to be incorporated in a pre-existing team even if you eventually want to branch out,” she advises. “Be flexible. They’re kids; allow them to be creative & ask questions. Just roll with it.”

With over 40 lessons under her belt, a fan club of elementary school students, and a PhD, Ailey is excited about her future. It will likely involve continued immersion in science and teaching. There may or may not be dry ice.

### *Celebrating Science Success in BUSD*

*How can 4th and 5th graders use tech gadgets to predict and measure CO2 levels? How can students apply what they’ve learned about circuits to build a lunch-box alarm?*

*Throughout the year, the Science Resource Teachers of BUSD have met to discuss and explore ways to improve and align their curriculum across the district.*

*This group has worked to improve their science teaching techniques, share lesson ideas, and explore specific issues such as methods to help students acquire academic language. Facilitated by CRS co-founder Nicki Norman, the SRT group worked*

*with BUSD technology specialist Wally Gutierrez and CRS scientist volunteer Derek Virgil to explore ways to use Vernier Science Probes and other technology in learning experiences. Says Nicki, “These teachers are tireless advocates for science at their schools.”*

*CRS salutes these educators who teach science to all Berkeley 4th and 5th graders!*

Cait Jenkins  
Cherene Fillingim-Selk  
Jon Bindloss  
Linsay Klim  
Pamela Radkey  
Ray Adam  
Suzanne Ingley

### Attention CIC Volunteers:

The annual CIC Volunteer Recognition Event will take place at **6 pm on June 2 at the Exploratorium in San Francisco**. Plan to join the fun as we celebrate your collective efforts in bringing science experiences to thousands of East Bay elementary students this school year!

*“Thank you for putting science back into the classroom and for inspiring me to refocus my efforts to teach the importance of science/engineering in everyday life. I look forward to future activities and events from CRS! Keep up the awesome work!”*

*--John, 2nd Grade Teacher, OUSD*

# Thank-you to Our Funders and Donors

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*Thank You for all that you  
do for CRS and for Bay  
Area Science!*

## Science Resource Social: Nibbles, Networking & New Ideas



*Above: Susan Bellone and Sherry Johnson examine an exhibit aboard the research vessel Robert G. Brownlee*

### CRS by the Numbers

*So far during the 2010-11 school year:*  
**612** teacher members, working with over  
**15,300** students  
**90** schools  
**267** scientist volunteers  
**253** lesson presentations  
**6,300** students doing hands-on science

Despite a pounding rainstorm, a hardy band of teachers and science educators made their way to the research vessel Robert G. Brownlee in Redwood City for a festive & informative Science Resource Social in March. CRS partners with local science centers twice a year to give teachers a chance to take a field trip, share science teaching tips, and hear from science providers.

This time it was the Marine Science Institute who hosted and shared information about its programs, field trips, and other offerings. Over two dozen teachers & science educators explored the ship (which is used for field trips) and used video-projected microscopes to view plankton while sipping wine and nibbling on a light dinner.

A presenter from Hiller Aviation Museum told teachers about the programs offered there. As a bonus both MSI and Hiller offered free memberships to the attendees!

Join us for our next Science Resource Social at the Hayward Shoreline Interpretive Center on September 22. They are celebrating their 25th year of exploring the salt marshes—there's more to mud than meets the eye! CRS members will automatically receive an invitation, but if you would like to join us, please contact Corinn at [CRS@crscience.org](mailto:CRS@crscience.org).

*"My kindergarteners LOVED the hands on activities. thank you, thank you, thank you for your lessons!" --Jessica, Teacher, BUSD*

## Awards & Recognition

### UC Chancellor's Award for Public Service

Longtime CRS supporter, board member, and science education cheerleader Robert Bergman, Gerald E. K. Branch Distinguished Professor of Chemistry at UC Berkeley, received the Chancellor's Award for Public Service in April. Bob won in the Faculty Service-Learning Leadership category for making it a priority to connect the science resources of Cal with the need of local elementary schools. In this way he has paved a path for meaningful support and engaging hands-on science experiences to help educators teach more science, and to inspire students to consider science as a career. He gives of his time regularly and he encourages his graduate students to volunteer in classrooms.

Miriam Bowring, leader of the Bergman lab CIC team, accepted the award on Bob's behalf, as he was away at a conference. Miriam noted, "Bob is amazing with all his students--his graduates, and his undergraduates."

*"THANK YOU! After this I am going to think about becoming a scientist!" --6th Grade Student*

Donations are used **where the need is greatest** and while needs change from season to season and year to year, please consider the following examples of what donations have funded in the past and *what your donation could do this year:*

**\$50** covers funds for one *volunteer trip to a classroom* of 25-30 students, providing resources, like honey, glycerin, test strips, straws, etc. for a hands-on lesson.

**\$100** covers the cost of one *volunteer training session* (10 volunteers) or *customized reports* for 10 teachers that impact science learning for 250-300 students.

To make a donation, go online to [www.crs-science.org/donate](http://www.crs-science.org/donate) OR mail your check and the form below to: **Community Resources for Science / 1611 San Pablo Ave. Suite 10 B / Berkeley, CA 94702**

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### STEMposium

Oakland school district's "Dinner with a Scientist" was recently selected as one of the "most innovative and compelling concepts in STEM education" by the STEMposium video contest. Congratulations to OUSD and Caleb Cheung, Science Manager for the district, for the recognition. Winners were selected through a video contest, culminating in an awards ceremony celebration at the California Academy of Sciences. To see the video, go to [www.stemposium.org](http://www.stemposium.org). CRS is happy to support Dinner With a Scientist events, with many CIC volunteers participating as featured scientists.

### Graduate Student Instructor Awards

Congratulations to our former and current volunteers who received the UC Berkeley Graduate Student Instructor Award for the 2010-11 year: Elizabeth Ferrer, Daniel Finley, Drew Gentner, Kelly Karns, Joanna MacKay, Frank Myers, Allie Obermeyer, Allyson Sia, Jessica Smith, Matthew Spencer, Candice Torres, Livia Wilz, Tara Yacovich, Bo Zheng.

**\$250** covers the cost of one volunteer team's presentations for an *entire school year* (lesson materials for 125-150 students).

**\$500** could fund a *Science Resource Event* for educators at a local science center (provide materials, books to distribute, refreshments).

**\$1,000** covers *stipends* for educators to attend workshops.

**\$1,500** covers funds for a "Day of Science" event for every 6th grade class at a middle school (about 200 students).

## What's Under That Rock?

The path to knowledge and, ultimately, understanding begins with a question, and young children are naturally brimming with them. As kids enter elementary school it becomes the job of teachers, despite challenges, to sustain students' curiosity as a means to build skills and knowledge.

The critical importance of science learning experiences for young students, and of preparing and inspiring the teachers who guide them, were highlighted by keynote speakers at the 2011 National Science Teachers' Association Conference in San Francisco.

"The sacred trust of teachers and parents is to connect the next generation to the chain of human knowledge," Jeff Goldstein, astrophysicist and director of the National Center for Earth and Space Science Education, told the assembly. (See his inspiring address at <http://blogontheuniverse.org/2011/02/02/nsta/>)

These themes were also front and center during the inaugural meeting of the CRS Advisory Council on Science Education in April. In the coming year the council will use them to guide its work as participants explore practical steps to "move the needle" in improving science education.

Fortunately, things are looking up in East Bay schools. Even with dire budget cuts, educators are getting

serious about science. Some districts are implementing required minutes of K-5 science teaching, and creative teachers are sharing ways to include science and hands-on learning "across the curriculum" to reinforce math and language arts skills. Test scores are rising, and many teachers are finding renewed inspiration for trying science.

It's clear the jobs of the future will require preparation in science and technology. Students will need a foundation in understanding how our world works whether they pursue a scientific career or not. As Dennis Bartels of the Exploratorium (quoting cosmologist and author Ann Druyan) reminded NSTA Conference attendees, science literacy serves as a "baloney detection kit" that protects individuals and communities from being manipulated, lied to and fooled.

At CRS we're working each day to help teachers find the information, materials, grants, professional development, field trips, and more that will help them bring science alive. We are excited to be developing ways to recognize schools and teachers who are making an effort to "do" more science.

*--From the Executive Director*



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*Left: A Brief Break from the Bubbles -- Program Manager Heidi Williamson (center), along with CIC Campus Recruiters Leah Witus (left) and Kristen Seim (right), showed excited kids how to make bubbles using dry ice during the Cal Day festivities at UC Berkeley in April. CRS now has scientist volunteers from over 20 departments at Cal who bring hands-on science experiences to East Bay classrooms.*



# Community Resources for Science

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...And CRS is pleased to welcome to our Board of Directors three talented individuals:

**Adela Pang**, Managing Director, Financial Planning and Analysis with Kaiser Permanente. She is an experienced senior financial administrator with a dedication to community service. Adela has served as Director of Finance, CFO, and in other financial leadership positions with several non-profit hospitals and medical centers.

**Lauren Luke**, Diversity Pipeline Program Manager with The Bar Association of San Francisco. She holds a J.D. from Indiana University Maurer School of Law, as well as an undergraduate degree in business. Lauren has extensive experience in education outreach, diversity recruiting, and community involvement.

**Justin Curley**, an attorney with Seyfarth Shaw LLP. He previously served as a law clerk for a federal judge in Seattle. Prior to law school, he earned his Certified Public Accountant license as a financial auditor at PricewaterhouseCoopers LLP. Justin is a graduate of Duke University School of Law and UC Berkeley.