



Earthquake Education Workshop at Scripps Institution of Oceanography's Visualization Center

by Debi Kilb and Robert de Groot

On Thursday, November 15, 2007, the fifth annual Earthquake Education Workshop was held at the [Scripps Institution of Oceanography's Visualization Center \(SIO VizCenter\)](#) at UC San Diego. In the previous four workshops educational specialists from the [University of Southern California](#) and the Pasadena Field Office of the [U.S. Geological Survey](#) offered training and support to the new SIO VizCenter instructors. This year was the inaugural workshop facilitated by instructors from the SCEC institutions in the San Diego region. Instructors at this year's workshop included Dr. Debi Kilb from the SIO VizCenter, Dr. Cheryl Peach from the [Birch Aquarium at Scripps](#), Dr. Bridget Konter from the [NASA Jet Propulsion Laboratory](#) and Dr. Robert Mellors from [San Diego State University](#).



Dr. Bridget Konter led the Earthquakes 101 lecture, which is available for download from the SIO VizCenter (see: <http://www.siovizcenter.ucsd.edu/library/objects/detail.php?ID=195>).

[Larger image](#)

Of the 23 teachers who attended the workshop, most were 6th grade teachers but the grade levels of the teacher's students ranged from 5th to 11th grade. Although many of the teachers were from the San Diego region, a handful traveled from communities outside of San Diego such as Murrieta, Alpine, and Julian.

By popular demand a number of lessons were repeated from the previous year's workshops such as the plate tectonic puzzle activity, seismic wave demonstration with Slinkys®, and a look at local California faults. Also included in this year's workshop were two new activities. The first new activity was an Earthquakes & Music four-part lesson plan that explores the cross-disciplinary nature of sounds waves and seismic waves. The curriculum for these lessons were developed through a partnership between Debi Kilb and Victoria Eicher and Judy Gaukel of the [La Jolla Symphony & Chorus Music Outreach and Education Program](#) with an emphasis on highlighting many of the K-12 California Content Standards in both [Science](#) and [Music](#). The lesson included imagining the Earth as a musical instrument and creating and recording sound waves to mimic a seismogram (i.e., producing amplitude and frequency waveforms that reproduce P- and surface wave features).

Another new activity in this year's workshop was a demonstration by Dr. Rob Mellors of the [AS-1 seismometers](#), which are housed in a number of schools across the nation. An audible 'ahhhh' was heard in the room when Dr. Mellors played a recording of the 7.7 magnitude earthquake in Chile that occurred the day before the workshop. The notion that each teacher could maintain a seismometer like the one Dr. Mellors setup at the workshop in their schools evoked a noticeable twinkle in the eyes of the teachers. The real-time recording of teleseismic earthquakes was the highlight of the workshop.



The freeware [Audacity](#), an audio editor and recorder, was used in the Music and Earthquakes segment of the workshop.

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Teachers comments on the post workshop survey were very positive and included statements such as:

- "My expectations for the workshop were exceeded – I learned much more in depth about resources and actual activities"
- "This workshop also gave me an opportunity to network with other teachers"
- "I'm really excited about getting an As-1 seismometer and setting it up at my school."
- "The workshop was well run and informational.
- "Hospitality was great!"
- "You provide relevant, current, fun, entertaining info in many ways!"
- "I hope you can visit my school, each of you are not what students think college professors are like."

One of the primary suggestions for follow-up programs was for a field-trip based workshop, as well as access to a pool of resource materials for check-out on short term loan. These requests will be incorporated into future SCEC workshops and outreach programs.

Each teacher left the workshop with a host of teaching materials including maps, slinkies, lesson plans, and large scale posters. Many of the posters and other resources were provided by the [Incorporated Research Institutions for Seismology](#). Visit the following link to access this years workshop of online collection of recommended resources:

<http://www.siovizcenter.ucsd.edu/workshop/resources.html>



Dr. Cheryl Peach used a number of different teaching tools in her presentations including web-based tools, large scale maps and posters.

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The numerous take home teaching products were a big hit with the teachers.

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A tip to carrying all of the take-home giveaways – put the slinkies on your arm, not only do they become a flashy fashion piece but one can easily demo the P-wave motion.

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