

Hello everyone. I hope you are all having a good spring. With summer rapidly approaching, BAGS will soon be taking a 3 month hiatus in terms of hosting and promoting geophysics related gatherings in the greater Bay Area. However before we do so we would like to let you know about two SEG related events that are coming up over the next few weeks. First, a week from this Thursday on May 28<sup>th</sup>, Koichi Hayashi of Geometrics who was the SEG's 2014 Near Surface Honorary Lecturer will be presenting a talk entitled 'Deep S-wave velocity profiles of the San Francisco Bay Area obtained by passive surface wave method'. The talk is free and will be hosted by Geometrics from 5pm to 7pm in their offices at 2190 Fortune Drive, San Jose, 95131. The abstract for his talk is included below, and you can also find the information on the BAGS events web site (<http://bayareageophysicalsociety.org/index.php/events/>).

Second, the 2015 SEG Distinguished Short Course Instructor is Oz Yilmaz, and he will presenting his short course entitled 'Engineering seismology with applications to geotechnical engineering' on June 8<sup>th</sup> at Stanford. The cost for the course \$200 for SEG members, \$295 for non-members, and \$50 for students. To register, and/or to get more information on the course, please visit the SEG Shopping Cart for the course which can be found at <http://shop.seg.org/Default.aspx?TabId=177&ProductId=5991643>.

Last, a gentle reminder about BAGS dues. If you are a member but haven't renewed your membership for 2015, please do so at <http://bayareageophysicalsociety.org/index.php/membership/>. If you have been meaning to become a BAGS member but haven't taken the time to sit down and register, now is a perfect chance to do so. And if you would like to donate to BAGS or become a corporate sponsor, you can do so via the PayPal link on our Sponsors web page (<http://bayareageophysicalsociety.org/index.php/about/sponsors/>). Again, it is through people joining BAGS and participating that we can build and maintain a vibrant geophysical community in the Bay Area.

Best Regards and have a great summer,

David Alumbaugh

President, Bay Area Geophysical Society

### **Deep S-wave velocity profiles of the San Francisco Bay Area obtained by passive surface wave method**

Koichi Hayashi, Geometrics

Three-dimensional deep S-wave velocity structure (to a depth of several km) has a large effect on middle to long period (0.5 to 5 s) ground motion in tectonic basins, such as the San Francisco Bay Area. Most studies on basin velocity structure rely on geological information, surface and borehole geophysical data and observed earthquake records. In general, geophysical data and seismic stations are sparsely distributed and much of the well data is too shallow to characterize deep S-wave velocity structure. To establish more accurate basin velocity structure, there is a need for more densely distributed deep S-wave velocity data. The

use of active and passive surface wave methods has increased significantly during the past 15 years. The passive surface wave method or microtremor array measurements, in which ambient noise is used as surface waves, is particularly effective for estimation of deep S-wave velocity structure because the method does not require an artificial source and the depth of investigation can easily be extended by increasing the size of the array. Large scale microtremor array measurements have been widely used during the past 15 years in Japan for estimating S-wave velocity structure to a depth of several km. We measured S-wave velocity profiles more than 25 sites in the San Francisco Bay Area using active and passive surface wave methods. The presentation summarizes the results of our measurements and discusses 2D and 3D deep basin velocity structure from an earthquake engineering point of view.