

Biondo Biondi

**Professor of Geophysics
Stanford University**

October 18, 2017 11:00 AM

McCone Hall 265, UC Berkeley

Title: Continuous subsurface monitoring by passive seismic data recorded with Distributed Acoustic Sensors: the "Stanford DAS Array" experiment

Abstract: Starting the beginning of September 2016, we have been continuously recording seismic data as sensed by a fiber-optic cable placed under Stanford University campus and measured by an OptaSense DAS system. Our array has recorded hundreds of seismic events. We have performed preliminary analysis of some of these events and are building a continuously updating database with all the events recorded by the array. We

are using ambient (mostly anthropogenic) noise to perform interferometry and to estimate and monitor subsurface properties under the array. Finally, we recorded an active seismic survey with multi-component nodes placed on the top of one of the sides of the DAS array. In my talk, I will show some results of our data analysis and discuss future plans for the project.

Short Bio:



Biondo Biondi is Professor of Geophysics at Stanford University. He graduated from Politecnico di Milano in 1984 and received an M.S. (1988) and a Ph.D. (1990) in Geophysics from Stanford. He is director of the Stanford Exploration Project (SEP). SEP is an academic consortium whose mission is to develop innovative seismic imaging methodologies and to educate the next generation of leaders in applied seismology. SEP's activities are supported by about 20 companies involved in Oil & Gas exploration and production. He is also co-director of the Stanford Center for Computational Earth and Environmental Science (CEES). CEES leads the Stanford School of Earth Sciences' computational-oriented research and educational programs.

He has made contributions on several aspects of seismic imaging, ranging from velocity estimation to parallel algorithms for seismic migration. Since the early nineties he has been at the forefront of the development of wave-equation imaging and inversion methods. In 2004 the Society of Exploration Geophysicists (SEG) honored Biondo with the Reginald Fessenden Award. In 2006 Biondo published the book "3D Seismic Imaging" that was the first book to introduce the theory of seismic imaging from the 3-D perspective. In 2007 Biondo was the SEG/EAGE Distinguished Short Course Instructor, for which he gave a one-day course in more than 30 cities around the world.