

# YANG ZHA

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## Education:

<b>Columbia University</b>	<b>2009-2014 (expected)</b>
Ph.D. Candidate in Marine Seismology and Geophysics	
<b>Fudan University, Shanghai, China.</b>	<b>2009</b>
B.S. Physics	

## Interest and Expertise:

Marine Geophysics; Ocean bottom seismology; Seismic imaging; Seismic Interferometry; Microseismic techniques; Surface wave tomography; Geodynamics.

## Research Experience:

**2012-present:** Developed a novel method to obtain OBS/OBN orientation using ambient noise correlation.

**2010-present:** Imaging seismic structure beneath Eastern Lau Spreading Center using ambient noise interferometry of ocean bottom seismometer (OBS) data.

**2009-2012:** Constraining crustal shear velocity structures and melt distributions near East Pacific Rise using 3D seafloor compliance modeling.

**2008-2009:** Manipulating transmission and dispersion properties of optical waveguide with electromagnetic left-handed material cladding.

## Work Experience

<b>Intern Geophysicist, ConocoPhillips.</b>	<b>2013.6-2013.8</b>
Developing and implementing an interferometry-based method to create and enhance ultra-long offset marine seismic data for subsalt velocity modeling.	

<b>Intern Geophysicist, ConocoPhillips.</b>	<b>2012.6-2012.8</b>
Developing a wave-equation imaging method for locating microseismic earthquakes in shale play exploration.	

## Publications:

**Zha, Y.,** S. C. Webb, S. S. Wei, D. A. Wiens, D. K. Blackman, W. Menke, R. A. Dunn, J. A. Conder, Seismological imaging of ridge-arc interaction beneath the Eastern Lau Spreading Center from OBS ambient noise tomography, *Earth Planet. Sci. Lett.*, 408, 194-206, 2014.

**Zha, Y.,** S. C. Webb, S. L. Nooner, and W. C. Crawford (2014), Spatial distribution and temporal evolution of crustal melt distribution beneath the East Pacific Rise at 9°–10°N inferred from 3-D seafloor compliance modeling, *J. Geophys. Res. Solid Earth*, 119, doi:10.1002/2014JB011131.

**Zha, Y.,** S. C. Webb, and W. Menke (2013), Determining the orientations of ocean bottom seismometers using ambient noise correlation, *Geophysical Research Letters*, 40, 3585–3590, doi:10.1002/grl.50698.

Wei, S., D. A. Wiens, **Y. Zha**, S. C. Webb, T. Plank, D. K. Blackman, R. A. Dunn, J. A. Conder (2014) Seismological Evidence of Effects of Water on Mantle Melt Transport beneath the Lau Back-arc Basin, *Nature*, *in press*.

Menke, W., **Y. Zha**, S. C. Webb D. K. Blackman (2014), Seismic Anisotropy Indicates Ridge-parallel Asthenospheric Flow Beneath the Eastern Lau Spreading Center, *Submitted*.

### **Invited Talks:**

*Mining signal from seafloor noise: applications using broadband ocean bottom seismograph:*

Institute of Geology and Geophysics, Chinese Academy of Sciences (2014/06);

Peking University (2014/06).

*Upper mantle shear velocity structure beneath Eastern Lau back-arc Spreading Center from ambient noise tomography of OBS data.*

Graduate student symposium. Columbia University (2013/03)

### **Field Experience:**

**2009.12:** Geodetic measurements at East Pacific Rise 9°-10°N, R/V Atlantis. Participating in deep-sea expedition with submersible *Alvin* to a depth of 2849 meters (9347 ft).

**2010.11:** Recovery of Ocean Bottom Seismograph array near Eastern Lau Spreading Center, Tonga. R/V Kilo Moana.

**2011.7:** Monitoring inflation of Axial Volcano Juan de Fuca Ridge. R/V Atlantis. Participating in ROV *Jason* expeditions.

**2014.5:** Deployment of Ocean Bottom Seismometer and pressure gauges at Hikurangi trench, New Zealand to monitor slow-slip earthquakes. R/V Tangaroa.

### **Programming and Geophysical Skills:**

Fortran 77/90; Matlab; Java; Linux/Unix; C/C++; Seismic Unix; SAC; Numerical modeling by finite difference/Finite element. Methods. SeisSpace/ProMAX processing and development; Seismic interferometry analysis; SEG-Y data manipulation,

### **Honors and Fellowships:**

**2009:** Faculty Fellowship from Columbia University.

**2007:** People's scholarship of Fudan University, 1<sup>st</sup> Prize.

### **Teaching and Outreach:**

Teaching assistant for *Solid Earth Dynamics*(2010, Columbia University), *Weapons of Mass Destruction* (2012, Columbia University) and *Alternative Energy Resources* (2010, Columbia University).

*Earth2Class* Program speaker: Update of March 12, 2011 Japan earthquake (2011/04).