Yitan Wang, Ph.D.

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Education

2017 – 2021 🔖 **Ph.D., University of Florida** in Seismology and Geophysics.

2013 – 2014 🔖 **M.Sc. University of Chicago** in Geophysics.
Thesis title: *Analysis of Seismic Signals within a Tabular Iceberg.*

2009 – 2013 🔖 **B.Sc.Nanjing University** in Geochemistry.
Thesis title: *P-wave Seismic Tomography Analysis in region of Weihe River Basin and its tectonic structure.*

Research Publications

Journal Articles

1. 孙晟, 王艺谭, 刘连文 Et al. (2016). 原地栖息真菌 talaromyces flavus 作用下不同粒径利蛇纹石的风化作用研究. *岩石矿物学杂志*, (2016 年 05), 885–892.

2. MacAyeal, D. R., Wang, Y., & Okal, E. A. (2015). Ambient seismic, hydroacoustic, and flexural gravity wave noise on a tabular iceberg. *Journal of Geophysical Research: Earth Surface, 120*(2), 200–211.

Working Papers

1. Wang, Y., Russo, R. M., Foster, D., Mueller, P., & Lin, Y. (2021). *Exploration of the moho structure and density profile in western united states. Earth and Planetary Science Letters.*

2. Wang, Y., Russo, R. M., & Lin, Y. (2021). *Using common conversion point stacking to explore the moho structure of western united states. Geophysical Journal International.*

Conferences

1. Wang, e. a., Yitan. (2020). Exploration of the moho structure and density profile in western united states.

2. Wang, Y., & Russo, R. M. (2019). Using common conversion point stacking to explore the moho structure beneath the western united states.

3. Wang, Y., & Russo, R. (2018). Using common conversion point stacking to explore upper mantle seismic discontinuities beneath the wyoming craton.

4. Wang, Y., Okal, E., & MacAyeal, D. (2014). Ambient seismic noise correlation on iceberg c16, ross sea, antarctica.

Research Experiences

2020 – 🔖 **Using Decision Tree to Develop the Moho Structure in West U.s.**

● *Using single Decision Tree, Random Forest, and Adaboost to predict the Moho in West U.S.*

2018 – 2020 🔖 **Exploration of the Moho Structure and Density Profile in West United States**

● *Fully understand the History and Geology in the North American Continent, especially the Archean Cratons such as Wyoming and the successively accreted provinces like Mojave, Yavapai, and Mazatzal.*

● *Fully Understand and Proficiently use Receiver Functions (RFs) in the structure image process.*

● *Derived the Moho structure in Western U.S by Common Conversion Point stacking (CCP) and analyzed the uncertainty of CCP stacking image.*

● *Compare the ideal and actual P-SV Transmission coefficients and develop the method to generate lower crustal density in Western U.S.*

● *Analyze the uncertainty about the lower crustal density derived from the transmission coefficient.*

2018-2019 🔖 **Using Common Conversion Point Stacking to Explore the Moho Structure of Western United States**

● *Fully understand the CCP stacking method and generate the Moho structure in Wester U.S.*

● *Use CCP stacking to image flat, antiform, synform, offset, slope, etc. layer models with actual station loci and evenly distribution of station loci.*

● *Analyze the image accuracy of CCP stacking derived from different structure models and the impact of the inhomogenous data distribution on the image.*

01/2018-12/2018 🔖 **Using CCP Stacking to Explore the 410 and 660 Discontinuity in North United States**

● *Fully understand the P wave and S wave profile along with depth in West U.S.*

● *Use CCP stacking to find the discontinuity at 410 km and 660 km.*

● *We successively detected the 410 discontinuity from the west coast to longitude -95° in the latitude from 50° to 45°, but it disappeared after that. The discontinuity appeared even deeper than 410 km, around 450 to 500 km.*

● *We added moveout correction to CCP stacking method. The discontinuity moves up to 420 to 460 km. We did not find 660 discontinuity.*

Research Experiences (continued)

09/2017-03/2018 ▌ **Use of Gravity Anomalies and Known Seismic Structure to Determine Locations of Anomalies Density Above the South America-Nazca Interplate Interface**

● *Understand the geology in South America, especially Chile. Analyze the tectonic histories and compositions of basement terranes forming the composite South American forearc in the Maule and Illapel rupture regions*

● *Analyze Bouguer and isostatic gravity anomalies in the Illapel and Maule rupture regions to identify areas of anomalously high density*

2013-2015 ▌ **Analysis of Seismic Signals within a Tabular Iceberg**

● *Use ambient noise in Seismograms to do cross-correlation to enhance the signal caused by Resonance. Fully understand the cross-correlation functions and the ambient noise in seismograms.*

● *Separate different types of waves that propagate in ice and water, such as seismic waves, hydro-acoustic waves, etc.*

● *Try to use ambient noise to study icebergs and expand the available data that can be used to study the iceberg structure.*

2011-2013 ▌ **P-wave Seismic Tomography Analysis in Region of Weihe River Basin and its tectonic structure**

● *Familiar with computer languages – C and Fortran– and uses the Fortran code to calculate P-wave seismic tomography and analyze anisotropy.*

● *Understand the P-wave seismic tomography method and used it to analyze the underneath structure about 50 km depth in the Weihe River Basin region.*

● *Try to image the anisotropy by using Fortran and Adobe Illustrator.*

2011-2012 ▌ **Study the Weathering of Serpentine with Different Diameters under the Action of Talaromyces flavs**

▌ **Analyze the Feasibility and Economic Benefits of Carbon Dioxide Storage and Compression in Jinchuan Nickel Mine.**

Skills

Languages ▌ Strong reading, writing and speaking competencies for English, Mandarin Chinese.

Coding ▌ Python, Matlab, C, Fortran, Bash Shell, GMT, SAC, Latex

Softwares ▌ Adobe Illustrator, Coral Draw, Photoshop