

Joshua B. Russell

Lamont-Doherty Earth Observatory
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EDUCATION

Columbia University, Graduate School of Arts and Sciences, New York, NY
Ph.D. in progress, Seismology Expected 2020
M.Phil., Seismology 2019
M.A., Seismology 2017
Master's Thesis: Constraints on radial and azimuthal anisotropy in the central Pacific upper mantle from the NoMelt OBS array

University of Missouri, College of Arts and Sciences, Columbia, MO, 2011–2015
B.S. Physics summa cum laude (minor Mathematics)
Senior Thesis: Crustal velocity structure beneath central Anatolia from double-difference travel-time tomography

RESEARCH EXPERIENCE

Graduate Research Fellow, Columbia University 2015–Present

UNAVCO RECESS Summer Intern 2014
Project: Using GPS signal-to-noise ratio (SNR) observations to detect and characterize the volcanic plume associated with the 2003 Soufrière Hills Volcano dome collapse

IRIS Summer Intern 2013
Project: Crustal structure beneath the Ozark Plateau and Illinois Basin using the OIINK Flexible Array

IMSD EXPRESS Research Fellow, University of Missouri 2011–2015
Project: Earthquake detection near the Central Anatolian Fault Zone using continuous data from the CD-CAT experiment

FELLOWSHIPS & AWARDS

National Science Foundation Graduate Research Fellowship 2015–2018
Dean's Diversity Fellowship, Columbia University 2015
Award for Academic Distinction, University of Missouri 2014
On To the Future (OTF) 2014 GSA travel grant 2014
Newell S. Gingrich Physics Scholarship 2013

PEER-REVIEWED PUBLICATIONS

- **Russell, J.B.**, Z. Eilon, S. Mosher (2019). OBSrange: A new tool for the precise remote location of ocean-bottom seismometers. *Seismological Research Letters*. 90 (4), 1627–1641. [doi:10.1785/0220180336](https://doi.org/10.1785/0220180336). [PDF](#)
- **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (2019). High-resolution constraints on Pacific upper mantle petrofabric inferred from surface-wave anisotropy. *Journal of Geophysical Research - Solid Earth*. 124, 631–657. [doi:10.1029/2018JB016598](https://doi.org/10.1029/2018JB016598). [PDF](#)

PENDING MANUSCRIPTS

- Menke, W. **J.B. Russell** (submitted). Explosive and Compensated Linear Vector Dipole Components of the Moment Tensor of a Fault in a Transversely Isotropic Medium. *Bulletin of the Seismological Society of America*.
- **Russell, J.B.**, H.F. Mark, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (in prep). Evidence for alternative fabric type in Pacific lithosphere.
- Ma, Z., C.A. Dalton, J.B. Gaherty, **J.B. Russell**, D.W. Forsyth, G. Hirth (in prep). Shear attenuation beneath the central Pacific and implications for transient creep in the oceanic upper mantle.
- N.J. Accardo, J.B. Gaherty, D.J. Shillington, E. Hopper, A.A. Nyblade, C.J. Ebinger, C.A. Scholz, **J.B. Russell**, B.K. Holtzman, C. Havlin, C. Class, P. Chindindali, R. Wambura-Ferdinand, G. Mbgoni (in prep). Thermo-chemical modification of the Upper Mantle beneath the Northern Malawi Rift Constrained from Shear Velocity Imaging.
- Maurer, J.M., J.M. Schaefer, **J.B. Russell**, S. Rupper, N. Wangdi, A. Putnam, N. Young (in prep). Remote seismic and satellite observations of a Himalayan glacier lake outburst flood.

CONFERENCE PROCEEDINGS (* = talk)

1. **Russell, J.B.**, H.F. Mark, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (2019). Anisotropy across length scales: Reconciling seismic constraints with natural and laboratory petrofabrics. *Interior of the Earth GRC 2019*, Mount Holyoke College.
2. **Russell, J.B.**, J.B. Gaherty (2019). Surface-wave anisotropy of the Eastern North American Margin (ENAM). *GeoPRISMS TEI 2019*, San Antonio, TX.
3. * **Russell, J.B.**, H.F. Mark, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (2018). Comprehensive *in situ* constraints on LPO fabric of fast-spreading oceanic lithosphere from seismic anisotropy. *AGU Fall Meeting 2018*, Washington, D.C.
4. Gaherty, J.B., **J.B. Russell**, H.F. Mark, P.-Y. Lin, E.K. Sarafian, Z. Ma, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans, C.A. Dalton (2018). A comprehensive portrait of the central Pacific lithosphere-asthenosphere system from NoMelt seafloor geophysical observations. *AGU Fall Meeting 2018*, Washington, D.C.
5. **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (2018). Seismic anisotropy of oceanic lithosphere from OBS noise correlations. *IRIS Workshop 2018*, Albuquerque, NM.
6. **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, D. Lizarralde, J.A. Collins, G. Hirth, R.L. Evans (2017). NoMelt Experiment: High-resolution constraints on Pacific upper mantle fabric inferred from radial and azimuthal anisotropy. *AGU Fall Meeting 2017*, New Orleans, LA. Poster Abstract: DI43B-0361.
7. Rabinowitz, H.S., A. Barth, **J.B. Russell**, K. Frischkorn, M. Yehudai (2017). Research as Art: Using figures to make science approachable. *AGU Fall Meeting 2017*, New Orleans, LA. Poster Abstract: ED11C-0140.
8. Hung S.-H., P.-Y. Lin, J.B. Gaherty, **J.B. Russell**, G. Jin, J.A. Collins, D. Lizarralde, R.L. Evans, G. Hirth (2017). Seismic Velocity Structure of the Pacific Upper Mantle in the NoMelt Region from Finite-Frequency Traveltime Tomography. *AGU Fall Meeting 2017*, New Orleans, LA. Abstract: S32C-02.
9. **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, M. Zebker (2017). Constraints on radial and azimuthal anisotropy in the central Pacific upper mantle from the NoMelt OBS array. *OBSIP Symposium 2017*, Portland, ME.
10. Gaherty, J.B., **J.B. Russell**, P.-Y. Lin (2017). Constraints on mantle flow in the oceanic upper mantle from a high-resolution estimate of seismic velocities in the central Pacific. *JpGU-AGU Joint Meeting 2017*, Poster Abstract: SIT25-P04.

11. **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, M. Zebker (2017). Constraints on radial and azimuthal anisotropy in the central Pacific upper mantle from the NoMelt OBS array. *Earthscope National Meeting 2017*, Anchorage, AK.
12. * **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, M. Zebker (2016). Constraints on radial anisotropy in the central Pacific upper mantle from the NoMelt OBS array. *AGU Fall Meeting 2016*, Abstract: S14A-05.
13. **Russell, J.B.**, J.B. Gaherty, P.-Y. Lin, G. Jin (2016). Constraints on radial anisotropy in the central Pacific upper mantle from the NoMelt OBS array. *IRIS Workshop 2016*, Vancouver, WA.
14. **Russell, J.B.**, S.L. Beck, N. Turkelli, D. Kalafat, A.A. Ozacar, E.A. Sandvol (2014). Earthquake detection near the Central Anatolian Fault Zone using continuous data from the CD-CAT experiment. *AGU Fall Meeting 2014*, Poster Abstract: S13D-4492.
15. **Russell, J.B.**, J.J. Braun, G.S. Mattioli (2014). Using GPS signal-to-noise ratio (SNR) observations to detect and characterize the volcanic plume associated with the 2003 Soufriere Hills Volcano dome collapse. *2014 GSA Annual Meeting*, Vancouver BC, Canada, Poster Abstract: T233.
16. **Russell, J.B.**, H.J. Gilbert, G. Pavlis (2013). Crustal Structure Beneath the Ozark Plateau and Illinois Basin using the OIINK Flexible Array. *AGU Fall Meeting 2013*, Poster Abstract: T23B-2582.
17. **Russell, J.B.**, H.J. Gilbert, G. Pavlis (2013). Crustal Structure Beneath the Ozark Plateau and Illinois Basin using the OIINK Flexible Array. *American Physical Society (APS) Prairie Section*, University of Missouri, Poster Abstract F1.38.

FIELD EXPERIENCE

Young Pacific ORCA OBS Deployment, South Pacific	April 2018 (4 weeks)
CD-CAT Passive Source Experiment, Central Anatolia, Turkey	June 2015 (2 weeks)
OIINK Passive Source Experiment, Western Kentucky	July 2013 (2 weeks)
IRIS-Passcal Instrumentation Short Course, Socorro, NM	May 2013 (1 week)

TEACHING EXPERIENCE

Introduction to Seismology - Teaching Assistant	Spring 2019
Quantitative Methods of Data Analysis - Teaching Assistant	Fall 2017

OUTREACH & SERVICE

Session Convener, AGU Fall Meeting	2019
Alumni Speaker, IRIS Diversity Recruitment Lecture Series	2017–2019
Guest Speaker, “Coding Quakes” Brown Scholars, American Museum of Natural History	2017–2019
Co-organizer, Research as Art at the Lamont-Doherty Earth Observatory	2016–2019
Volunteer/Contributor, Seismic Sound Lab , LDEO	2016–2019
Volunteer, Lamont Open House	2018
Co-organizer, New Student Orientation Camping Trip, Columbia University	2016
Volunteer, Girls’ Science Day at Columbia University	2015

SKILLS

Programming: Python, MATLAB, C, Perl, FORTRAN, GMT, shell scripting, L^AT_EX
Software: [git](#), SAC, LabVIEW, AutoCAD, Adobe Illustrator

PROFESSIONAL SOCIETIES

American Geophysical Union	2013–Present
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