

Joseph S. Byrnes

Assistant Research Professor

School of Earth and Sustainability, Northern Arizona University, Flagstaff, AZ, USA

joseph.byrnes@nau.edu, byrnes.joseph@gmail.com, 612-850-8517

[Google Scholar](#), [Personal Site](#), [Github](#)

Research Interests

Dynamics of the oceanic and continental lithosphere-asthenosphere system

Passive source seismic imaging

Inverse theory, Bayesian approaches in particular

Installation of short-period and broad-band seismometers

Sequence of events at the K-Pg boundary

Education

2022-present **Assistant Research Professor**, Northern Arizona University

2021–2022 **Post-Doctoral Scholar**, Northern Arizona University, advised by James Gaherty

2017–2020 **Post-Doctoral Scholar**, University of Minnesota, advised by Max Bezada. “Pre-doctoral” scholar from Sept. 2016 to May 2017

2011–2017 **PhD in Geological Science**, the University of Oregon, advised by Emilie E. E. Hooft and Douglas R. Toomey

2007–2011 **B. S. in Physics; B. S. in Mathematics**; minors in Geology and Astronomy, Iowa State University

Teaching

Instructor for ESCI 1006 Oceanography, 240 students, Fall 2018 at the University of Minnesota

Instructor for Geology 363, Matlab for Earth Scientists, 13 students, Fall 2014 at the University of Oregon

Teaching Assistant at the University of Oregon, relevant courses included 468/568 Seismology, 410/510 Field Geophysics, 453/553 Tectonics

Field Work

Ambient seismic noise collection in Irish Park in Dec. 2017 to test new methods for shallow seismic imaging. Returned with Fairfield Nodes in Jan. 2020.

Planning role in the deployment of broad-band seismometers for the CIELO seismic experiment ([network code 2F](#)). Participated in siting in June 2017, installation in Sept. 2017, service runs in March 2018 and Sept 2018, and recovery in Sept. 2019.

Near surface seismic refraction surveys in Oregon of two landslides and a fault zone in 2012, 2013, and 2014.

Deployment and recovery of seismometers in Northern California as part of the Cascadia Initiative in 2014 and 2015 ([network code 5E](#))

Deployment of short-period seismometers on the island of Anafi in the Aegean Sea as part of the PROTEUS seismic experiment in 2015 ([network code 1E](#))

Awards and External funding

Awarded:

“A deep denoising algorithm targeting oceanic noise in seafloor seismometer data”, 2024 Crescent seed grant program. \$24k. Start date 5/1/2024.

“Constraining ocean-mantle dynamics by improving shear-wave splitting with ocean bottom seismometers”, for Marine Geology and Geophysics in the Division of Ocean Sciences at the NSF. \$290k. Started 04/01/2023.

NSF East Asia and Pacific Summer Institute (EAPSI) for FY 2013 in Japan. Active 5/2013 to 8/2013. NSF contribution of \$5k.

Minnesota Geological Survey grant for near-surface geophysical imaging with ambient noise, Oct. 2017. renewed August 2019. \$10k.

Conoco Phillips grant for investigating strain measurements with fiber optics cables, Oct. 2017. \$2k.

2014 AGU Fall Meeting Outstanding Student Paper Award

Johnson Scholarship for Academic Achievement from the Geological Sciences Department, 2012, 2013, and 2015

In process:

Under revision: “Deep water pH variability from acoustic attenuation in ocean-bottom seismometer experiments”, for Chemical Oceanography in the Division of Ocean Science at the NSF. \$210k. First submitted August 2023.

Community Activities

Invited Seminars: Woods Hole Oceanographic Institute, 2019; Hewett lecture at UC Riverside, 2020; Sandia National Labs, 2020 (virtual); Seismic Tomography Workshop, 2020 (virtual); University of Illinois, 2021 (virtual); GYPSUM series lecture 2021 (virtual); Syracuse University, 2022 (virtual); Northern Arizona University, 2022; Scripps Institute of Oceanography, 2023; Berkeley Seismic Lab, 2023; University of Binghamton, 2024; Louisiana State University, 2024.

Future Geophysical Facility whitepaper co-author for the NSF, concerning needs of the marine geophysical community.

Reviewer for Nature, Science, Journal of Geophysical Research, Tectonophysics, Journal of Volcanology and Geothermal Research, Geophysical Journal International, G-cubed, Journal of Geophysical Research, Geosphere, Seismological Research Letters, Geological Magazine, and the National Science Foundation.

AGU Mentor 365 program – program to talk with students from around the world over skype or at conferences. Connected with 15 students. Ranges from aiding with AGU abstracts to generally discussing graduate school with new students. Now too distant from PhD for participation.

Session leads at conferences:

Chair for “Seismology General Contribution: Structure IV Oral” at the American Geophysical Union Fall Meeting 2023.

Gordon Conference on the Interior of the Earth – discussion lead for “Melt in the Mantle”

Co-organizer of session “Bridging Boundaries in the Lithosphere-Asthenosphere System: Models and Observations” at the AGU Fall Meeting 2022.

Co-organizer of session DI021. The Physical Origin of Geophysical Anomalies at AGU, Fall 2018.

Students

URISE intern Leah April hosted in the summer of 2023 to work on “Reliable detection of converted phases with nodal arrays”.

Joshua Alexander Finch – undergraduate at Northern Arizona University, graduating 2024. Supported by “Constraining ocean-mantle dynamics by improving shear-wave splitting with ocean bottom seismometers”, his research was presented in a talk at the AGU Fall Meeting 2023.

Gianmarco Del Piccolo – PhD student at the University of Padova, to be hosted at Northern Arizona University for 6 months in 2024.

Publications

In prep defined as draft circulated with coauthors

J. S. Byrnes and J. B. Gaherty, Shear-wave splitting at the NoMelt site with an array-based approach: Constraints on the degree of coupling between the lithosphere and asthenosphere, in prep for *Geophysical Research Letters*

Liu, Hanlin, S. Pei, W. Liu, X. Xue, J. Li, Q. Hua, L. Li, and J. S. Byrnes, A new comprehensive model for Cenozoic intraplate volcanism in Northeast China and the evidence from Teleseismic P-wave Attenuation, in prep for *Earth and Planetary Research Letters*

- J. H. Phillips, J. B. Gaherty, J. B. Russell, Z. C. Eilon, D. W. Forsyth, and J. S. Byrnes, Spatial Variation in Anisotropic Shear Velocity of Old Oceanic Lithosphere-Asthenosphere in the Southwest Pacific, in prep for *Journal of Geophysical Research*
- Goldhagen, G., H. A. Ford, J. S. Byrnes, and M. Brounce, New measurements of seismic attenuation across the East African Rift support the role of rift-related melting, in prep for *Seismological Research Letters*
- Birkey, A, H. A. Ford, M. Anderson, M. J. Bezada, J. S. Byrnes, and M. Shapovalov Insight into the evolution of the eastern margin of the Wyoming Craton from complex, laterally variable shear wave splitting, submitted to *Lithosphere*
18. Del Piccolo, G., B. P. VanderBeek, M. Faccenda, A. Morelli, and J. S. Byrnes, Imaging upper-mantle anisotropy with trans-dimensional Bayesian Monte-Carlo sampling, 2024, *Bulletin of the Seismological Society of America*, doi: 10.1785/0120230233. *******Note:** This manuscript is not currently indexed on Google Scholar and must be accessed at the journal's site*****
17. Bezada, M., J. S. Byrnes, Z. Zhou, & H. Lee, Teleseismic Body-Wave Attenuation Beneath the Conterminous United States from Analysis of EarthScope Transportable Array data, 2023, *Journal of Geophysical Research*. e2023JB027299, <https://doi.org/10.1029/2023JB027299>
16. Byrnes, J. S., J. Gaherty, and E. Hopper, Seismic Architecture of the Lithosphere-Asthenosphere System in the Western United States from a Joint Inversion of Body- and Surface-wave Observations: Distribution of Partial Melt in the Upper Mantle, (2023), *Seismica*, 2(2), <https://doi.org/10.26443/seismica.v2i2.272> *******Note:** Only the preprint is currently indexed on Google Scholar and the article must be accessed at the journal's site, available via the DOI*****
15. Mittal, V., M. D. Long, R. L. Evans, J. S. Byrnes, M. B. Bezada, (2023), Evidence for partial melt in the uppermost mantle within the Central Appalachian Anomaly, eastern North America, 24, e2022GC010690. <https://doi.org/10.1029/2022GC010690>
14. Hanlin, L., J. S. Byrnes, M. Bezada, Q. Wu, S. Pei, and J. He, Variable depths of magma genesis in Eastern Asia inferred from teleseismic P wave attenuation (2022), *J. Geophys. Res.*, doi: 10.1029/2021JB022439
13. Zhu, Z., M. Bezada, J. S. Byrnes, and H. Ford, Evidence for Stress Localization Caused by Lithospheric Heterogeneity from Seismic

- Attenuation (2021), *Geochem. Geophys. Geosys.*, 22, e2021GC009987, doi: 10.1029/2021GC009987
12. Ford, H. A., M. Bezada, J. S. Byrnes, Z. Zhu, and A. Birkey (2021), The CIELO Seismic Experiment, *Seis. Res. Lett.*, doi: 10.1785/0220210237
 11. Long, M. D., Wagner, L. S., King, S. D., Evans, R. L., Mazza, S. E., Byrnes, J. S., Johnson, E., Kirby, E., Bezada, M., Gazel, E., Miller, S. R., Aragon, J. C., and Liu, S. (2021), Evaluating models for lithospheric loss and intraplate volcanism beneath the Central Appalachian Mountains, *J. Geophys. Res.*, 126, e2021JB022571, doi:10.1029/2021JB022571
 10. Yangfan, D., J. S. Byrnes, and M. Bezada (2021), Lithospheric architecture of South China from teleseismic body-wave attenuation, *Geophys. Res. Lett.*, 48, e2020GL091654, doi:10.1029/2020GL091654
 9. Bodmer, M., D. R. Toomey, B. VanderBeek, E. E. Hooft, and J. S. Byrnes (2020), Body Wave Tomography of the Cascadia Subduction Zone and Juan de Fuca Plate System: Identifying Challenges and Solutions for Shore-Crossing Data, *Geochem. Geophys. Geosys.*, e2020GC009316, doi: 10.1029/2020GC009316.
 8. Byrnes, J. S. and M. Bezada (2020), Dynamic upwelling beneath the Salton Trough imaged with teleseismic attenuation tomography, *J. Geophys. Res.*, 125, e2020JB020347, doi:10.1029/2020JB020347.
 7. Byrnes, J. S., M. Bezada, M. D. Long, and M. Benoit (2019), Thin lithosphere beneath the central Appalachian Mountains: Constraints from seismic attenuation beneath the MAGIC array, *Earth and Planetary Science Letters*, 519, 297-307, doi:10.1016/j.epsl.2019.04.045.
 6. Bezada, M. J., Byrnes, J., & Eilon, Z. (2019), On the robustness of attenuation measurements on teleseismic P waves: insights from micro-array analysis of the 2017 North Korean nuclear test, *Geophysical Journal International*, 218(1), 573-585, doi:10.1093/gji/ggz169.
 5. Byrnes, J. S., and L. Karlstrom (2018), Anomalous K-Pg aged seafloor attributed to impact-induced mid-ocean ridge magmatism, *Science Advances*, 4, eaa02994, doi:10.1126/sciadv.aao2994
 4. Byrnes, J. S., D. R. Toomey, E. E. E. Hooft, J. Nabelek, and J. Braunmiller (2017), Mantle dynamics beneath the discrete and diffuse plate boundaries of the Juan de Fuca plate: Results from Cascadia Initiative body wave tomography, *Geochem. Geophys. Geosyst.*, 18, 2906–2929, doi:10.1002/2017GC006980.
 3. Malony, A. D., M. A. H. Monil, C. Rasusen, K. Huck, J. Byrnes, and D. Toomey (2016), Towards scaling parallel seismic raytracing, *IEEE International Conference on Computational Science and Engineering*.

2. Malony, A. D., S. McCumsey, J. S. Byrnes, C. Rasmusen, S. Kever, and D. R. Toomey (2016), A data parallel algorithm for seismic ray tracing, *International Meeting on High Performance Computing for Computational Science (VECPAR)*.
1. Byrnes, J.S., Hooft, E.E.E., Toomey, D.R., Villagómez, D.R., Geist, D.J., and Solomon, S.C. (2015), An upper mantle seismic discontinuity beneath the Galápagos Archipelago and its implications for studies of the lithosphere-asthenosphere boundary: *Geochem. Geophys. Geosyst*, v. 16, no. 4, p. 1070–1088, doi:10.1002/202014GC005694

Conference Abstracts

Del Piccolo, G., Lo Bue, R., VanderBeek, B., Faccenda, M., Cocina, O., Carlino, M. F., Giampiccolo, E., Morello, A., Byrnes, J. S., Trans-dimensional Mt. Etna P-wave anisotropic seismic imaging, European Geophysical Union 2024.

Byrnes, J. S., A Novel Approach to Inferring Depth-dependent Seismic Anisotropy from Shear-wave Splitting in Noisy Oceanic Environments, Arizona Collaborative Consortium for Earth and Space Science, oral presentation.

Byrnes, J. S., Gaherty, J. B., Loeberich, E., Long, M. D., Wei, S. Evidence for the alignment of melt in the mantle beneath mid-ocean ridges from teleseismic shear-wave splitting, AGU Fall Meeting, 2023, oral presentation, DI12A-02.

Del Piccolo, G., Lo Bue, R., VanderBeek, B., Faccenda, M., Cocina, O., Carlino, M. F., Giampiccolo, E., Morello, A., Byrnes, J. S., Trans-dimensional inference in anisotropic seismic imaging: applications to Mt. Etna tomography with body waves, AGU Fall Meeting 2023, oral presentation, DI42A-06.

Carchedi, C. J. W., Gaherty, J. B., Byrnes, J. S., Rondenay, S., Ajala, R., Steckler, M. S., Alim, M. S., Akhter, S. H., From Evolving Accreting Sediments to a Modified Mantle: Shear-Velocity Structure across the Indo-Burma Forearc Margin from the Joint Inversion of Surface- and Scattered-Wave Constraints, AGU Fall Meeting 2023, poster presentation, T41C-0243.

Yakubu, T., Gaherty, J. B., Shillington, D., Porter, R., Byrnes, J. S., High-resolution Rayleigh-wave tomography constraints on hydration, faulting, and mantle fabric in the incoming plate along the Alaska Subduction Zone, AGU Fall Meeting 2023, poster presentation, S23F-0429.

Clark, G., Shallon, B., Ford, H. A., Byrnes, J. S. New Seismic Attenuation Constraints Beneath Iceland, AGU Fall Meeting 2023, poster presentation, DI11B-0002.

Bezada, M., Byrnes, J. S., The relationship between the amplitudes of velocity and attenuation anomalies in the conterminous US and what it can tell us about the mantle, AGU Fall Meeting 2023, poster presentation, MR31B-0071.

April, L., Byrnes, J. S., Reliable converted phases with nodal arrays, AGU Fall Meeting 2023, poster presentation, S11D-0295.

Gaherty, J. B., Byrnes, J. S., Shillington, D. Seismic inferences on mantle temperature and melting during extension: tale of three rifts, AGU Fall Meeting 2023, oral presentation, T21C-02.

Shallon, B., Ford, H. A., Bezada, M. J., Byrnes, J. S., Birkey, A. Interpreting lithospheric structure of the Wyoming Craton from Sp receiver functions using CIELO seismic data, AGU Fall Meeting 2023, oral presentation, T13B-05.

Finch, J. A., Byrnes, J. S., Phillips, J. H., Gaherty, J. B., Russell, J. B., Eilon, Z. C., and Forsyth, D. W., Teleseismic Shear-wave Splitting with Data from the Old ORCA Experiment in the Southwest Pacific, AGU Fall Meeting 2023, oral presentation, DI42A-03.

Phillips, J. H., Gaherty, J. B., Russell, J. B., Eilon, Z. C., Forsyth, D. W., and Byrnes, J. S., Spatial Variation in Anisotropic Shear Velocity of Old Oceanic Lithosphere-Asthenosphere: Insights from the Old ORCA Experiment in the Southwest Pacific, AGU Fall Meeting 2023, oral presentation, DI42A-01.

Byrnes, J. S. Accelerated transdimensional MCMC for differentiable problems with Riemann manifold based proposals, AGU Fall Meeting 2023, oral presentation, NG22A-04.

Phillips, J. H., Gaherty, J. B., Russell, J. B., Eilon, Z. C., Forsyth, D. W., and Byrnes, J. S., Spatial Variation in Anisotropic Shear Velocity of Old Oceanic Lithosphere-Asthenosphere: Insights from the Old ORCA Experiment in the Southwest Pacific, GSA Connects 2023

Byrnes, J. S., J. B. Gaherty, A Novel Approach to Inferring Depth-dependent Seismic Anisotropy from Shear-wave Splitting in Noisy Oceanic Environments, AGU Fall Meeting 2022, Oral Presentation, DI12A-06

Byrnes, J. S., J. B. Gaherty, Probing the Physical Nature of LABs and MLDs Across the Continental US from Joint Shear-velocity Inversion of Surface-wave and Receiver-function Observations, AGU Fall Meeting 2022, Oral Presentation, T22C-07

Zhang, Y., S. S. Wei, J. B. Byrnes, D. Tian, F. Wang, M. Bezada, P-wave attenuation structure of the Tonga subduction zone and implications for mantle wedge processes, AGU Fall Meeting 2022, Oral Presentation, DI23A-06

Phillips, J., J. B. Gaherty, J. B. Russell, Z. Eilon, D. W. Forsyth, J. S. Byrnes, Spatial Variation in Anisotropic Structure and Phase Velocity of Old Oceanic

Lithosphere-Asthenosphere in the Southwest Pacific, AGU Fall Meeting 2022, Poster Presentation, DI25B-0033

Ford, H., G. Goldhagen, J. S. Byrnes, M. Brounce, New Insight into the Physical Properties of the East African Mantle from Seismic Attenuation, AGU Fall Meeting 2022, Oral Presentation, T43B-03

Birkey, A., H. Ford, M. Bezada, J. S. Byrnes, Z. Zhu, B. Shallon, On the Edge: Evolution of the Eastern Margin of the Wyoming Craton, AGU Fall Meeting 2022, Poster presentation, T25D-0158

Byrnes, J. S., J. B. Gaherty, E. Hopper, Seismic architecture of the lithosphere-asthenosphere system in the western United States from joint inversion of body and surface wave observations: Distribution of partial melt in the asthenosphere. AGU Chapman Conference on Distributed Volcanism and Distributed Volcanism Hazards, Oral Presentation, 1042125.

Brounce, M., H. Ford, T. P. Fischer, J. S. Byrnes, S. Scoggins, J. Jaramillo, G. Goldhagen, J. Humphreys. Volatiles, redox, and mantle attenuation in the East African Rift. Goldschmidt 2022, #12315

Gaherty, J., J. Byrnes, and D. J., Shillington. Presence and role of melt in continental rifts. "Structure and Deformation at Plate Boundaries", a GeoPRISMS funded synthesis workshop.

Byrnes, J. S., J. Gaherty, and E. Hopper, Joint inversion of surface-wave and S-to-p receiver function constraints for shear-wave velocity in the Western United States: Evidence for melt in the asthenosphere. American Geophysical Union, Fall Meeting 2021. Poster presentation, DI15C-0031.

Long, M. D., Wagner, L. S., King, S. D., Evans, R. L., Mazza, S. E., Byrnes, J. S., Johnson, E., Kirby, E., Bezada, M., Gazel, E., Miller, S. R., Aragon, J. C., and Liu, S., Evaluating models for lithospheric loss and intraplate volcanism beneath the Central Appalachian Mountains. American Geophysical Union, Fall Meeting 2021. Oral presentation, T13A-05.

Carchedi, C., J. Gaherty, S. Rodenay, R. Ajala, P. Persaud, J. Byrnes, E. Sandvol, M. Steckler, A. Foster, 3D shear-velocity structure across the Indo-Burman accretionary margin by the joint inversion of surface-wave and scattering constraints. American Geophysical Union, Fall Meeting 2021. eLightning poster, T41D-01.

Oliveira, R., M. Bezada, J. S. Byrnes, The Yellowstone paradox - decoupling between seismic velocity and attenuation in the upper mantle. American Geophysical Union, Fall Meeting 2021. Poster presentation, S25D-0279.

- Zhu, Z., M. Bezada, J. S. Byrnes, H. A. Ford, Revisiting uplift in the Laramide Orogeny: Evidence for the Localization of Deformation by Variations in Lithospheric Strength from both Seismic Velocity and Attenuation. American Geophysical Union, Fall Meeting 2021. Virtual session, S45G-11.
- Goldhagen, G., H. A. Ford, J. S. Byrnes, M. N. Brounce, Variations in teleseismic body-wave attenuation along the East African Rift. American Geophysical Union, Fall Meeting 2021. Poster presentation, S25D-0280.
- Zhang, Y., J. Byrnes, S. S. Wei, D. Tian, and F. Wang, P wave attenuation tomography of the Tonga-Lau mantle wedge improved by a Bayesian Monte Carlo approach and independently constrained source spectra, American Geophysical Union, Fall Meeting 2021. Poster presentation, S25D-0276.
- Phillips, J. H., J. B. Gaherty, J. B. Russel, Z. C. Eilon, J. S. Byrnes, D. W. Forsyth, Surface-wave anisotropy of 125-Ma oceanic lithosphere and asthenosphere in the southwest Pacific. American Geophysical Union, Fall Meeting 2021. Poster presentation, DI15C-0034.
- Birkey, A., H. A. Ford, J. S. Byrnes, M. Bezada, Seismic anisotropy and lithospheric structure across the eastern margin of the Wyoming craton. American Geophysical Union, Fall Meeting 2021. Poster presentation, DI45C-0028.
- Byrnes, J. S., J. Gaherty, E. Hopper, Imaging the lithosphere-asthenosphere system of the Colorado Plateau with a joint inversion of receiver function, surface wave, and head wave constraints, GAGE/SAGE 2021 Community Science Workshop
- Zhu, Z., M. Bezada, J.S. Byrnes, H.A. Ford, Investigating the role of lithospheric heterogeneity in localizing deformation during the Laramide Orogeny: Insights from seismic attenuation, American Geophysical Union, Fall Meeting 2020. Poster presentation T034-0002.
- Bezada, M., J.S. Byrnes, Z. Zhu, H. Lee, Structure of the Continental Lithosphere Beneath the United States Viewed Through the Lens of Seismic Attenuation. American Geophysical Union, Fall Meeting 2020. Oral presentation T037-06.
- Byrnes, J. S., and Bezada, M, Evidence for a narrow column of upwelling mantle beneath the Salton Trough from teleseismic attenuation tomography. American Geophysical Union, Fall Meeting 2020. Oral presentation T046-07.
- Long, M. D., M. H., Benoit, R. L. Evans, J. S. Byrnes, M. Bezada, V. Mittal, S. D. King, E. Kirby, and V. Levin, Lithospheric loss beneath the Central Appalachian Mountains and comparisons with the New England Appalachians, Geological Society of America 2020 SE/NE Joint Section Meeting, oral
- Hirsch, A. C., J. S. Byrnes, M. Bezada, Bayesian Monte Carlo Inversion of ellipticity

- and spatial autocorrelation dispersion curves for near-surface structure: a test case, American Geophysical Union, Fall Meeting 2019. Oral presentation S14A-07.
- Birkey, A., H. A. Ford, M. Bezada, J. S. Byrnes, Evidence for the eastern terminus of the Thunder Basin Block beneath the Wyoming Craton from the CIELO seismic experiment, American Geophysical Union, Fall Meeting 2019. Poster T13E-0231.
- Byrnes., J. S., and M. Bezada, Real and apparent attenuation of teleseismic P waves in the Rio Grande Rift, American Geophysical Union, Fall Meeting 2019. Poster S53E-0498.
- Ford, H. A, M. Bezada, and J. S. Byrnes, Characterizing structure of the Thunder Basin Block and the Black Hills: Preliminary results from the CIELO seismic experiment, American Geophysical Union, Fall Meeting 2018
- Byrnes, J. S., M. Bezada, M. D. Long, and M. H. Benoit, A thin lithosphere and steep lithosphere-asthenosphere boundary beneath the central Appalachian Mountains: Constraints on seismic attenuation using MAGIC Array data, American Geophysical Union, Fall Meeting 2018
- Byrnes, J., M. Bezada, M. D. Long, and M. H. Benoit, Attenuation of teleseismic P waves in potentially melt-bearing regions, IRIS Workshop 2018
- Byrnes, J. S. and M. Bezada, Constraints on mantle melt geometries from body wave attenuation in the Salton Trough and Snake River Plain (oral), American Geophysical Union, Fall Meeting 2017, abstract #DI53A-06.
- Byrnes, J. S. and L. Karlstrom, Did the Chicxulub meteorite impact trigger eruptions at mid-ocean ridges globally? (invited, oral), American Geophysical Union, Fall Meeting 2017, abstract #V34B-06.
- Bodmer, M., D. R. Toomey, E. E. E. Hooft, M. Bezada, B. Schmandt, J. S. Byrnes, Tomographic Imaging of the Cascadia Subduction Zone and Juan de Fuca Plate System: Improved Methods Eliminate Artifacts and Reveal New Structures (poster), American Geophysical Union, Fall Meeting 2017, abstract #T42C-07
- Byrnes, J. S., Toomey, D.R., Hooft, E. E. E., 2014, Structure of the Lithosphere-Asthenosphere System Beneath the Juan de Fuca Plate: Results of Body Wave Imaging Using Cascadia Initiative Data (poster), American Geophysical Union, Fall Meeting 2014, abstract #DI53B-4375.
- Byrnes, J. S., Hooft, E. E. E., Toomey, D. R., Geist, D., Villagomez, D., Solomon, S. C., 2013, The seismic discontinuity at 70 to 90 km depth beneath the Galápagos is not the Lithosphere-Asthenosphere Boundary (poster), American Geophysical Union, Fall Meeting 2013, abstract #S31A-2344.
- Byrnes, J., Hooft, E. E. E., and Toomey, D. R., 2012, S-to-P Receiver Function Analysis of Shallow Mantle Seismic Interfaces Beneath the Galápagos Archipelago (poster), American Geophysical Union, Fall Meeting 2012, abstract #T51C-

2599.