

Curriculum Vitae

I. PERSONAL INFORMATION

I.A. UID, Name, Contact Information

Name: Vedran Lekic (Appointed Assistant Professor 1/2012, Promoted to Associate Professor 7/2018, Promoted to Full Professor 7/2023)
Title: Professor
Address: Department of Geology
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I.B. Academic Appointments at UMD:

2023- Professor, Department of Geology, University of Maryland, College Park
2018-2023 Associate Professor, Department of Geology, University of Maryland, College Park.
2012-2018 Assistant Professor, Department of Geology, University of Maryland, College Park.
2011 Special Member of the Graduate Faculty, Department of Geology, University of Maryland, College Park.

I.D. Other Employment:

2010-2011 National Science Foundation Postdoctoral Fellow at the Department of Geological Sciences, Brown University.
2010 Postdoctoral Fellow at the Berkeley Seismological Laboratory, University of California, Berkeley.

I.E. Educational Background:

Ph.D. Earth and Planetary Science, University of California, Berkeley, December 2009.
A.B. Astronomy & Astrophysics and Earth & Planetary Science, *magna cum laude*
Harvard University, May 2004.

II. RESEARCH, SCHOLARLY, & CREATIVE ACTIVITIES

II.C. Refereed Journals

NB: Underlined names represent undergraduate students under direct supervision, (*) denotes postdoctoral researchers under direct supervision, and (†) denotes graduate students under direct supervision.

II.C.1 Refereed Journal Articles

1. Samuel, H., Drilleau, M., **Lekic, V.**, Irving, J.C.E., Xu, Z., Huang, Q., Garcia, R., Rivoldini, A., Badro, J., Lognonne, P., Connolly, J., Kawamura, T., Gudkova, T. and W.B. Banerdt, 2026, Complementary analyses further support a molten Basal Mantle Layer on Mars: A reply to Russell et al. (2026), *Icarus*, <https://doi.org/10.1016/j.icarus.2026.117148>
2. Pearson†, K., **Lekic, V.** and L. Wagner, 2026, Low Aftershock Productivity and Fault Geometry of the 2017 Delaware Earthquake, *Seismological Research Letters*, <https://doi.org/10.1785/0220250322>
3. Kim, D., Song, J. H., Dobrosavljevic, V. V. and **V. Lekić**, 2026. Seismic and mineralogical evidence for an iron-rich mega-ultralow-velocity zone beneath Hawai'i. *Science Advances*, 12(5), eadz1962.H., <https://doi.org/10.1126/sciadv.adz1962> pdf
4. Udell-Lopez, K., Huang, M. H. and **V. Lekić**, 2026. Using rate-and-state friction constitutive laws to predict seismicity rates for ice rifts on the Ross Ice Shelf in Antarctica. *Earth and Planetary Science Letters*, 675, 119790, <https://doi.org/10.1016/j.epsl.2025.119790> pdf
5. Wang, J., Schmerr, N.C., McCall, N., Kruse, S., **Lekic, V.**, Whelley, P., Giles, J., Wike, L., West, J.D., Porter, R., Banks, M.E., Coonan, J., Deykes, N., Shahid, S. and Z. Vig, Enhanced Seismic Backscattering for Lava Tube Detection, *Geophysical Research Letters*, 52, e2025GL116494, <https://doi.org/10.1029/2025GL116494>.
6. Mills, C., Rudolph, M. and **V. Lekic**, Exploring and Summarizing Ensemble Solutions to Geophysical Inverse Problems, *Journal of Geophysical Research: Machine Learning and Computation*, 2(4), e2024JH000472, <https://doi.org/10.1029/2024JH000472>.
7. Wang, J., Schmerr, N.C., Bell, E.R., McCall, N., **Lekic, V.**, Huang M.-H., Richardson, J.A., Young, K.E., Whelley, P.L., Scheidt, S.P., Wasser, M.L., Barry, C., Bracia, C., Wike, L., Giles, J., Rees, S., West, J.D., Hurtado, J.M., Sweeney, T. and N. Valenzuela, 2025, Integrated Seismic Refraction, Reflection, and Rayleigh Wave Imaging at Kilbourne Hole, New Mexico: Implications for Lunar Subsurface Exploration, *J. Geophys. Res. Planets*, 130(6), <https://doi.org/10.1029/2025JE008950>
8. Kim, D., **Lekic, V.**, Wieczorek, M., Schmerr, N.C., Collins, G. and M.P. Panning, 2025, A New Lunar Crustal Thickness Constrained by Converted Seismic Waves Detected beneath the Apollo Seismic Network, *Geophysical Research Letters*, 52(13), <https://doi.org/10.1029/2024GL114506>
9. Myers†, H., Lathrop, D.P. and **V. Lekic**, 2025, Enabling Small Anomaly Detection using Finite-Difference Magnetic Gradiometry, *Geophysics*, 90(4), 1-63, <https://doi.org/10.1190/geo2024-0005.1>
10. Wang, J., Schmerr, N.C., **Lekic, V.**, Giles, J., Wike, L., Hoyle, A., Bell, E.R., McCall, N., Richardson, J.A., Whelley, P., West, J.D., Rees, S., Braccia, C., Barry, C., Hurtado, J.M., Sweeney, T. and N. Valenzuela, 2025, Active Seismic Exploration of Planetary Subsurfaces via Compressive Sensing, *Earth and Space Sciences*, <https://doi.org/10.1029/2024EA003828>
11. Wang*, J., **Lekic, V.**, Schmerr, N., Gu, Y., Guo, Y. and L. Rongzhi. Mesozoic intraoceanic subduction shaped the lower mantle beneath the East Pacific Rise, 2024, *Science Advances*, *Science Advances*, 10(39), p.eado1219, <https://doi.org/10.1126/sciadv.ado1219>

12. Samuel, H., Drilleau, M., Rivoldini, A., Xu, Z., Huang, Q., Garcia, R., Lekic, V., Irving, J.C.E., Badro, J., Lognonne, P., Connolly, J., Kawamura, T., Gudkova, T. and W.B. Banerdt, 2023, Geophysical evidence for an enriched molten silicate layer above Mars's core, *Nature*, <https://doi.org/10.1038/s41586-023-06601-8>
13. Maguire, R., **Lekic, V.**, Kim, D., Schmerr, N., Li, J., Beghein, C., Huang, Q., Irving, J.C.E., Karakostas, F., Lognonné, P., Stähler, S.C. and W.B. Banerdt, 2023, Moment Tensor Estimation of Event S1222a and Implications for Tectonics Near the Dichotomy Boundary in Southern Elysium Planitia, Mars, *J. Geophys. Res. Planets*, <http://doi.org/10.1029/2023JE007793>
14. Izquierdo, K., **Lekic, V.** and L. Montesi, An Object-Oriented Bayesian Gravity Inversion Scheme for Inferring Density Anomalies in Planetary Interiors, 2023, *Earth Space Sci.*, 10, e2023EA002853. <https://doi.org/10.1029/2023EA002853>
15. Kim, D., Duran, C., Giardini, D., Plesa, A.C., Stähler, S.C., Boehm, C., Lekic, V., McLennan, S.M., Ceylan, S., Clinton, J. and P.M. Davis (2023). Global crustal thickness revealed by surface waves orbiting Mars. *Geophysical Research Letters*, 50, e2023GL103482. <https://doi.org/10.1029/2023GL103482>
16. Irving, J.C.E., **Lekic, V.**, Duran, A.C., Drilleau, M., Kim, D., Rivoldini, A., Khan, A., Samuel, H., Antonangeli, D., Banerdt, W.B., Beghein, C., Bozda, E., Ceylan, S., Charalambous, C., Clinton, J., Davis, P., Garcia, R., Giardini, D., Horleston, A., Huang, Q., Hurst, K.J., Kawamura, T., King, S., Knapmeyer, M., Li, J., Lognonné, P., Maguire, R., Panning, M.P., Plesa, A.C., Schimmel, M., Schmerr, N.C., Stähler, S., Stutzmann, E. and Z. Xu. (2023) First Observations of Core-Transiting Phases on Mars, *Proc. Natl. Acad. Sci. USA*, 120(18), <https://doi.org/10.1073/pnas.2217090120>
17. Kim, D., Stähler, S., Ceylan, S., **Lekic, V.**, Maguire, R., Zenhäusern, G., Clinton, J., Giardini, D., Khan, A., Panning, M.P., Davis, P., Schmerr, N., Lognonné, P. and W.B. Banerdt (2023) Structure Along the Martian Dichotomy Constrained by Rayleigh and Love Waves and their Overtones, *Geophys. Res. Lett.*, e2022GL101666, <https://doi.org/10.1029/2022GL101666>
18. Beghein, C., Li, J., Weidner, E., Maguire, R., Wookey, J., **Lekić, V.**, Lognonné, P and W. B. Banerdt (2022). Crustal Anisotropy in the Martian lowlands from surface waves. *Geophysical Research Letters*, 49(24), e2022GL101508, <https://doi.org/10.1029/2022GL101508>
19. Li, J., Beghein, C., McLennan, S.M., Horleston, A.C., Charalambous, C., Huang, Q., Zenhäusern, G., Bozdağ, E., Pike, W.T., Golombek, M. and **V. Lekić** (2022). Constraints on the martian crust away from the InSight landing site. *Nature Communications*, 13(1), p.7950. <https://doi.org/10.1038/s41467-022-35662-y>
20. Li, J., Beghein, C., Davis, P., Kim, D., **Lekic, V.**, Wieczorek, M.A., Schimmel, M., Stutzmann, E., Lognonné, P. and W.B. Banerdt (2022). Crustal Structure Constraints from the Detection of the SsPp Phase on Mars, *Earth and Space Science*, <https://doi.org/10.1029/2022EA002416>
21. Kim, D., Banerdt, W.B., Ceylan, S., Giardini, D., **Lekic, V.**, Lognonné, P., Beghein, C., Beucler, E., Carrasco, S., Charalambous, C., Clinton, J., Drilleau, M., Duran, A.C., Golombek, M., Joshi, R., Khan, A., Knapmeyer-Endrun, B., Li, J., Maguire, R., Pike, W.T., Samuel, H., Schimmel, M., Schmerr, N., Stähler, S., Stutzmann, E., Wieczorek, M., Xu, Z.,

- Batov, A., Bozdog, E., Dahmen, N., Davis, P., Gudkova, T., Horleston, A., Huang, Q., Kawamura, T., King, S., McLennan, M., Nimmo, F., Plasman, M., Plesa, A.C., Stepanova, E.I., Weidner, E., Zenhäusern, G., Daubar, I.J., Fernando, B., Garcia, R., Posiolova, L.V. and M.P. Panning. (2022) Surface Waves and Crustal Structure on Mars, *Science*, 378(6618), 417-421, <https://doi.org/10.1126/science.abq7157>
22. Q. Huang, N. Schmerr, S. King, A. Rivoldini, A.-C. Plesa, A. Khan, H. Samuel, M. Drilleau, D. Kim*, R. Maguire, **V. Lekic**, F. Karakostas, M. Bystricky, T. Gudkova, J. Irving, D. Antonangeli, S. Ceylan, A. C. Duran, S. Stähler, M. Collinet, C. Bollinger, F. Bejina, B. Fernando, K. Leng, T. Nissen-Meyer, C. Beghein, L. Waszek, R. Myhill, C. Michaut, N. Siersch, J.-R. Scholz, P. Davis, R. Garcia, P. Lognonné, B. Pinot, R. Widmer-Schmidrig, M. Panning, S. Smrekar, T. Spohn, D. Giardini, W. B. Banerdt. (2022) Seismic Detection of the Martian Mantle Transition Zone by InSight, *Proc. Natl. Acad. Sci. USA*, 119 (42) e2204474119, <https://doi.org/10.1073/pnas.2204474119>
 23. Bell, E., Schmerr, N., Porter, R., Bleacher, J., Young, K., Huang, M.-H., **Lekic, V.**, and Pettit, D. (2022) Active seismic exploration along an analog human Lunar mission traverse in the San Francisco Volcanic Field, *The Leading Edge*, 41, 690-699. <https://doi.org/10.1190/tle41100690.1>
 24. Ringler, A. T., Anthony, R.E., Aster, R.C., Ammon, C.J., Arrowsmith, S., Benz, H., Ebeling, C., Frassetto, A., Kim, Koelemeijer, P., W.-Y., Lau, H.C.P., **Lekic, V.**, Richards, P.G., Schaff, D.P., Vallée, M. and W. Yeck, (2022) Achievements and Prospects of Global Broadband Seismic Networks after 30 Years of Continuous Geophysical Observations, *Reviews of Geophysics*, e2021RG000749, <https://doi.org/10.1029/2021RG000749>
 25. Horleston, A., Clinton, J., Ceylan, S., Giardini, D., Charalmbous, C., Irving, J., Lognonné, P., Stähler, S., Zenhäusern, G., Dahmen, N., Duran, C., Kawamura, T., Khan, A., Kim, D., Plasman, M., Euchner, F., Beghein, C., Beucler, E., Huang, Q., Knapmeyer, M., Knapmeyer-Endrun, B., **Lekić, V.**, Li, J., Perrin, C., Schimmel, M., Schmerr, N., Stott, A., Stutzmann, E., Teanby, N., Xu, Z., Panning, M. and B., Banerdt. (2022) The far side of Mars: Two distant quakes detected by InSight, *The Seismic Record*, 2(2), 88-99, <https://doi.org/10.1785/0320220007>
 26. Moulik*, P., **Lekic, V.**, Romanowicz, B., Ma, Z., Schaeffer, A., Ho, T., Beucler, E., Debayle, E., Deuss, A., Durand, S., Ekström, G., Lebedev, S., Masters, G., Priestley, K., Ritsema, J., Sigloch, K., Trampert, J. and A. M. Dziewonski. (2022) Global reference seismological data sets: multimode surface wave dispersion. *Geophys. J. Int.*, 228(3), pp.1808-1849, <https://doi.org/10.1093/gji/ggab418>
 27. Kim*, D., **V. Lekic**, J. Irving, N. Schmerr, B. Knapmeyer-Endrun, R. Joshi, M. Panning, B. Tauzin, F. Karakostas, R. Maguire, Q. Huang, A. Khan, D. Giardini, M. Wiczorek, P. Lognonne and W. B. Banerdt. (2021a) Improving constraints on Planetary Interiors with PPs Receiver Functions, *J. Geophys. Res. – Planets*, 126(11), e2021JE006983, <https://doi.org/10.1029/2021JE006983>
 28. Kim*, D., Davis, P., **Lekic, V.**, Maguire, R., Compaire, N., Schimmel, M., Stutzmann, E., Irving, J.C.E., Lognonné, P., Scholz, J.-R., Clinton, J., Zenhäusern, G., Dahmen, N., Panning, M., Garcia, R.F., Giardini, D., Hurst, K., Knapmeyer-Endrun, B., Nimmo, F., Pike, W.T., Pou, L., Schmerr, N., Stähler, S.C., Tauzin, B., Widmer-Schmidrig, R. and W.B. Banerdt. (2021b) Potential Pitfalls in the Analysis and Structural Interpretation of Mars'

Seismic Data from InSight, *Bull. Seismol. Soc. Am.*, 111(6), 2982-3002,
<https://doi.org/10.1785/0120210123>

29. Karakostas, F., Schmerr, N., Maguire, R., Huang, Q., Kim*, D., **Lekic, V.**, Nunn, C., Menina, S., Kawamura, T., Lognonné, P., Giardini, D. and W.B. Banerdt. (2021) Scattering Attenuation of the Martian Interior through Coda Wave Analysis, *Bull. Seismol. Soc. Am.*, 111(6), 3035-3054, <https://doi.org/10.1785/0120210253>
30. Schimmel, M., Stutzmann, E., Lognonné, P., Compaire, N., Davis, P., Drilleau, M., Garcia, R., Kim*, D., Knapmeyer-Endrun, B., **Lekic, V.**, Margerin, L., Panning, M., Schmerr, N., Scholz, J.R., Spiga, A., Tauzin, B. and W.B. Banerdt. (2021) Seismic Noise Autocorrelations on Mars, *Earth and Space Science*, e2021EA001755, <http://dx.doi.org/10.1029/2021EA001755>
31. Stähler, S.C., Khan, A., Banerdt, W.B., Lognonné, P., Giardini, D., Ceylan, S., Drilleau, M., Duran, A.C., Garcia, R., Huang, Q., Kim*, D., **Lekic, V.**, Samuel, H., Schimmel, M., Schmerr, N., Sollberger, D., Stutzmann, E., Xu, Z., Antonangeli, D., Davis, P., Irving, J.C.E., Kawamura, T., Knapmeyer, M., Maguire, R., Marusiak, A.G., Panning, M.P., Perrin, C., Plesa, A.-C., Rivoldini, A., Schmelzbach, C., Zenhäusern, G., Beucler, E., Charalambous, C., Clinton, J., Dahmen, N., van Driel, M., Gudkova, T., Horleston, A., Pike, W.T., Plasman, M. and S.E. Smrekar. (2021) Seismic Detection of the Martian Core, *Science*, 373(6553), 443-448, <https://doi.org/10.1126/science.abi7730>
32. Maguire, R., Schmerr, N., **Lekic, V.**, Hurford, T., Dai, L. and A. Rhoden. (2021) Constraining Europa's Ice Shell Thickness with Fundamental Mode Surface Wave Dispersion, *Icarus*, 369, 114617, <https://doi.org/10.1016/j.icarus.2021.114617>
33. Magrini, F., Boschi, L., Gualtieri, L., **Lekic, V.** and F. Cammarano. (2021) Rayleigh-wave attenuation across the conterminous United States in the microseism frequency band, *Scientific reports*, 11(1), 1-9, <https://doi.org/10.1038/s41598-021-89497-6>
34. Knapmeyer-Endrun, B., Panning, M.P., Bissig, F., Joshi, R., Khan, A., Kim*, D., **Lekic, V.**, Tauzin, B., Tharimena, S., Plasman, M., Compaire, N., Garcia, R.F., Margerin, L., Schimmel, M., Stutzmann, E., Schmerr, N., Bozdog, E., Plesa, A.-C., Wiczeorek, M.A., Broquet, A., Antonangeli, D., McLennan, S.M., Samuel, H., Michaut, C., Pan, Lu., Smrekar, S.E., Johnson, C.L., Brinkman, N., Mittelholz, A., Rivoldini, A., Davis, P.M., Lognonné, P., Pinot, B., Scholz, J.-R., Stähler, S., Knapmeyer, M., van Driel, M., Giardini, D. and W. B. Banerdt. (2021) Thickness and structure of the Martian crust from InSight seismic data, *Science*, 373(6553), 438-443, <https://doi.org/10.1126/science.abf8966>
35. Huang, M.H., Hudson-Rasmussen, B., Burdick, S., **Lekic, V.**, Nelson, M., Fauria, K., and N. Schmerr. (2021) Bayesian seismic refraction inversion for critical zone science and near-surface applications, *Geochem., Geophys., Geosys.*, <https://doi.org/10.1029/2020GC009172>
36. Khan, A., Ceylan, S., van Driel, M., Giardini, D., Lognonné, P., Samuel, H., Schmerr, N., Stähler, S., Duran, A.C., Huang, Q., Kim*, D., Charalambous, C., Clinton, J., Davis, P., Drilleau, M., Karakostas, F., **Lekic, V.**, Maguire, R., Michaut, C., Panning, M., Pike, W., Pinot, B., Plasman, M., Scholz, J.-R., Widmer-Schmidrig, R., Spohn, T., Smrekar, S. and W. Banerdt. (2021) Imaging the upper mantle structure of Mars with InSight seismic data, *Science*, 373(6553), 434-438, <https://doi.org/10.1126/science.abf2966>
37. Compaire, N., Margerin, L., Garcia, R., Pinot, B., Calvet, M., Orhand-Mainsant, G., Kim*, D., **Lekic, V.**, Tauzin, B., Schimmel, M., Stutzmann, E., Knapmeyer-Endrun, B., Lognonné,

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38. Rudolph, M., Lourenco, D., Moulik, P. * and **V. Lekic** (2021), Long-wavelength Mantle Structure: Geophysical Constraints and Dynamical Models. In H. Marquardt, M. Ballmer, S. Cottaar, and J. Kontar (Eds.), *Mantle Convection and Surface Expressions* (pp. 3-19), *Geophysical Monograph Series, Washington, DC, American Geophysical Union*, <https://doi.org/10.1002/9781119528609.ch1>
 39. Rudolph, M., Moulik*, P. and **V. Lekic** (2020) Bayesian inference of mantle viscosity from whole-mantle density models, *Geochem., Geophys., Geosys.*, 21(11), e2020GC009335, <https://doi.org/10.1029/2020GC009335>
 40. Kim*, D., **Lekić, V.**, Ménard, B., Baron, D. and M. Taghizadeh-Popp (2020). Sequencing seismograms: A panoptic view of scattering in the core-mantle boundary region. *Science*, 368(6496), 1223-1228, <https://doi.org/10.1126/science.aba8972>
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 42. Cunningham†, E. and **V. Lekic** (2020), Constraining properties of sedimentary strata using receiver functions: An example from the Atlantic Coastal Plain of the southeastern United States, *Bull. Seismol. Soc. Am.*, 110 (2): 519–533, <https://doi.org/10.1785/0120190191>
 43. P. Lognonné, W.B. Banerdt, W.T. Pike, D. Giardini, U. Christensen, R.F. Garcia, T. Kawamura, S. Kedar, B. Knapmeyer-Endrun, L. Margerin, F. Nimmo, M. Panning, B. Tauzin, J.-R. Scholz, D. Antonangeli, S. Barkaoui, E. Beucler, F. Bissig, N. Brinkman, M. Calvet, S. Ceylan, C. Charalambous, P. Davis, M. van Driel, M. Drilleau, L. Fayon, R. Joshi, B. Kenda, A. Khan, M. Knapmeyer, **V. Lekic**, J. McClean, D. Mimoun, N. Murdoch, L. Pan, C. Perrin, B. Pinot, L. Pou, S. Menina⁽¹⁾, S. Rodriguez, C. Schmelzbach, N. Schmerr, D. Sollberger, A. Spiga, S. Stähler, A. Stott, E. Stutzmann, S. Tharimena, R. Widmer-Schmidrig, F. Andersson, V. Ansan, C. Beghein, M. Böse, E. Bozdog, J. Clinton, I. Daubar, P. Delage, N. Fuji, M. Golombek, M. Grott, A. Horleston, K. Hurst, J. Irving, A. Jacob, J. Knollenberg, S. Krasner, C. Krause, R. Lorenz, C. Michaut, B. Myhill, T. Nissen-Meyer, J. ten Pierick, A.-C. Plesa, C. Quantin-Nataf, J. Robertsson, L. Rochas, M. Schimmel, S. Smrekar, T. Spohn, N. Teanby, J. Tromp, J. Vallade, N. Verdier, C. Vretos, R. Weber, D. Banfield, E. Barrett, M. Bierwirth, S. Calcutt, N. Compaire, C. Johnson, D. Mance, F. Euchner, L. Kerjean, G. Mainsant, A. Mocquet, J. Antonio Rodriguez Manfredi, G. Pont, P. Laudet, T. Nebut, S. de Raucourt, O. Robert, C. Russel, A. Sylvestre-Baron, S. Tillier, M. Wiczorek, C. Yana, P. Zweifel, Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data, *Nature Geoscience*, 13(3), 213-220, <https://doi.org/10.1038/s41561-020-0536-y>
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46. Izquierdo[†], K., **Lekic, V.** and L. Montesi (2020), A Bayesian Approach to Infer Interior Mass Anomalies from the Gravity Field of Celestial Bodies, *Geophys. J. Int.*, 220(3), 1687–1699, <https://doi.org/10.1093/gji/ggz544>
47. Kim*, D. and **V. Lekic** (2019) Groundwater Variations from Autocorrelation and Receiver Functions, *Geophys. Res. Lett.*, 46, 13,722–13,729. <https://doi.org/10.1029/2019GL084719>
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II.C.1 Invited Reviews of Journal Articles

1. Ritsema, J. and **V. Lekic** (2020) Heterogeneity of Seismic Wave Velocity in Earth's Mantle, *Ann. Rev. Earth Planet. Sci.*, 48, 377-401, <https://doi.org/10.1146/annurev-earth-082119-065909>

II.D. Published in Conference Proceedings

NB: Underlined names represent undergraduate students under direct supervision, (*) denotes postdoctoral researchers under direct supervision, and (†) denotes graduate students under direct supervision.

II.D.2 Non-Refereed Conference Proceedings

1. Renaud, J.P., Henning, W.G., **Lekic, V.**, Schmerr, N., Clark, J.D., Bernhardt, H., Chow, J.K., Di, J., Dixon, E., Harzell, C.H., Huizenga, F.E., Magnani, M.B. and R.M. Marino (2026, March). Assessing Seismicity and Strain of Potentially Young Lunar Fault Scarps, *57th Lunar and Planetary Science Conference*, Abstract 1495.
2. **Lekic, V.**, Dixon, E., Ferguson, I., Henning, W. G., Huizenga, F. E., Pasquali, D., Schmerr, N. C., & Stolleis, K. A. (2025, March). Active seismic imaging system for planetary exploration. *56th Lunar and Planetary Science Conference*, Abstract 2147.
3. Schmerr, N.C., Frizzel, E., Hartzell, C., Bernhardt, H., Clark, J., Powell, T., **Lekic, V.** (2025, March), A Seismic Origin for Lunar Coldspots. *56th Lunar and Planetary Science Conference*, Abstract 2160.
4. Renaud, J. P., Henning, W. G., Dixon, E. E., **Lekić, V.**, Schmerr, N., Marino, R. M., Stolleis, K. A., Huizenga, F. E., Ferguson, I. T., Ledebuhr, A., Hurford, T. A., & Goossens, S. J. (2025, March). A method for in-situ measurement of tidal deformation on solid planetary objects with application to lunar exploration. *56th Lunar and Planetary Science Conference*, Abstract 1622.
5. Shoemaker, E. S., Kim, D., **Lekić, V.**, Ghent, R., Kruse, S., Hon, O., Richardson, J. A., & Schmerr, N. (2025, March). Characterizing a heterogeneous subsurface through radargram coda analysis. *56th Lunar and Planetary Science Conference*, Abstract 1989.
6. Wang, J., Schmerr, N., Richardson, J. and **V. Lekic**, 2024. Active Seismic Exploration of Planetary Subsurface via Compressive Sensing. In *Lunar and Planetary Science Conference* (No. 3040, p.1942).
7. Wike, L., Schmerr, N., Wang, J., McCall, N., Bell, E., Whelley, P., Zanetti, M., **Lekic, V.**, Ghent, R., Kim, D. and Kruse, S., 2024. Predicting the Seismic Signatures of Lava Tubes and Developing Tools for Recovering Them from Data. In *Lunar and Planetary Science Conference* (No. 3040, p.2214).
8. Giles, J., Schmerr, N., Bell, E., **Lekic, V.**, Wang, J., Richardson, J., Porter, R. and Young, K., 2024. Challenges in Imaging the Shallow Subsurface for Lunar Exploration Using Seismic Surface Waves. In *Lunar and Planetary Science Conference* (No. 3040, p.2652).
9. Kim, D., **Lekić, V.**, Maguire, R., Schmerr, N.C. and Irving, J.C.E., 2024. Marsquake Source Array Analysis Using Denoised Waveforms. In *Lunar and Planetary Science Conference* (No. 3060, p.6040).

10. Beghein, C., Li, J., Weidner, E., Maguire, R., Wookey, J., **Lekić, V.**, Lognonné, P., & Banerdt, W. B. (2023, March). Crustal seismic anisotropy in the Martian lowlands. *54th Lunar and Planetary Science Conference*, Abstract 2256.
11. Bramson, A. M., Gorham, P. W., Allison, P. S., Andrew, M. Z., Bailey, S. H., Beatty, J. J., Connolly, A. L., Costello, E. S., Deaconu, C., DellaGiustina, D. N., Delph, J. R., Ganesh, I., Harshman, K., Ghent, R. R., Joseph, E. C. S., Jung, A., **Lekić, V.**, Lucey, P. G., Meyer, S., Miki, C. K., Nerozzi, S., Oberla, E., Peters, S. T., Prechelt, R. L., Ruckman, L., Schmerr, N. C., Schmitt, D. R., Schroeder, D. M., Siegler, M. A., Sori, M. M., Varner, G. S., Viereg, A. G., & Weber, R. C. (2023, March). CryptEx: A mission concept to test the presence, properties, and geophysical context of lunar cryptomaria. *54th Lunar and Planetary Science Conference*, Abstract 1797.
12. Khatib, A. S., **Lekic, V.**, Weber, R. C., & Schmerr, N. C. (2023, March). Investigating deep moonquake clustering using the scattering transform. *54th Lunar and Planetary Science Conference*, Abstract 1289.
13. Li, J., Beghein, C., McLennan, S. M., Horleston, A. C., Charalambous, C., Huang, Q., Zenhäusern, G., Bozdag, E., Pike, W. T., Golombek, M., **Lekić, V.**, Lognonné, P., & Banerdt, W. B. (2023, March). Constraints on the Martian crust away from the InSight landing site. *54th Lunar and Planetary Science Conference*, Abstract 2292.
14. Samuel, H., Drilleau, M., Rivoldini, A., Xu, Z., Huang, Q., Lognonné, P., Garcia, R., Badro, J., Kawamura, T., Connolly, J. A. D., Irving, J. C. E., **Lekic, V.**, Gudkova, T., & Banerdt, W. B. (2023, March). Evidence for Mars deep mantle layering in the light of InSight seismic data. *54th Lunar and Planetary Science Conference*, Abstract 1482.
15. Kim, D., Stähler, S., Boehm, C., **Lekic, V.**, Giardini, D., Wiczorek, M., Ceylan, S., Clinton, J., Khan, A., Plesa, A.-C., Panning, M., Lognonne, P. and B. Banerdt, 2023, Obtaining Average Crustal and Uppermost Mantle Properties for Planetary Models of Mars. In Lunar and Planetary Science Conference (No. 2806, p. 1943)
16. Hurford, T.A., Henning, W.G., Maguire, R., **Lekic, V.**, Schmerr, N., Panning, M.P., Bray, V.J., Manga, M., Kattenhorn, S.A., Quick, L.C. and A. R. Rhoden (2020, March). Tidally-Driven Seismicity on Satellites, Planets, and Exoplanets. In Lunar and Planetary Science Conference (No. 2326, p. 2022).
17. Wike, L., Coonan, J., Kim, D., Ghent, R., Kruse, S., **Lekic, V.**, Richardson, J., & Schmerr, N. (2022, March). Imaging heterogeneity in regolith using a joint ground penetrating radar and seismology approach. *53rd Lunar and Planetary Science Conference*, Abstract 2357.
18. Khatib, A. S., Schmerr, N. C., & **Lekic, V.** (2022, March). Classifying deep moonquakes using machine learning algorithms. *53rd Lunar and Planetary Science Conference*, Abstract 2393.
19. Huang, Q., Schmerr, N. C., King, S. D., Rivoldini, A., Plesa, A.-C., Samuel, H., Kim, D., Maguire, R. R., Karakostas, F., **Lekić, V.**, Collinet, M., Myhill, R., Antonangeli, D., Drilleau, M., Bystricky, M., Bollinger, C., Michaut, C., Gudkova, T., Irving, J. C. E., Fernando, B., Leng, K., Nissen-Meyer, T., Bejina, F., Bozdag, E., Beghein, C., Waszek, L., Siersch, N. C., Scholz, J.-R., Davis, P. M., Lognonné, P., Pinot, B., Widmer-Schmidrig, R., Panning, M. P., Smrekar, S. E., Spohn, T., Giardini, D., & Banerdt, W. B. (2022, March). Constraints on the depth of Martian mantle transition zone from triplicated waveforms. *53rd Lunar and Planetary Science Conference*, Abstract 1673.
20. Khan, A., Ceylan, S., van Driel, M., Giardini, D., Lognonne, P., Samuel, H., Schmerr, N.,

Stähler, S., Duran, A.C., Huang, Q. and Kim*, D., Charalmbous, C., Clinton, J.F., Davis, P.M., Drilleau, M., Karakostas, F., **Lekic, V.**, Maguire, R.R., Michaut, C., Panning, M.P., Pike, W.T., Pinot, B., Plasman, M., Scholz, J.-R., Widmer-Schnydrig, R., Spohn, T., Smrekar, S.E. and W.B. Banerdt (2021, March). Constraints on the Martian Upper Mantle from InSight Seismic Data. In Lunar and Planetary Science Conference (No. 2548, p. 1836).

21. Stähler, S. C., Ceylan, S., Duran, A. C., Garcia, R. G., Giardini, D., Huang, Q., Khan, A., Kim, D., Lognonné, P., Maguire, R. R., Marusiak, A. G., Plesa, A. C., Samuel, H., Schimmel, M., Schmerr, N. C., Sollberger, D., Stutzmann, E., Antonangeli, D., Clinton, J. F., Drilleau, M., Gudkova, T., Horleston, A., Irving, J., Kawamura, T., **Lekic, V.**, Myhill, R., Nimmo, F., Panning, M. P., Rivoldini, A., Schmelzbach, C., Stanley, S., van Driel, M., Weber, R. C., Xu, Z., Zenhäusern, G., Banerdt, W. B., & InSight Science Team. (2021, March). Seismic detection of the Martian core by InSight. *52nd Lunar and Planetary Science Conference*, Abstract 1545.
22. Panning, M. P., Knapmeyer-Endrun, B., Bissig, F., Joshi, R., Khan, A., Kim, D., **Lekić, V.**, Tauzin, B., Tharimena, S., Plasman, M., Compaire, N., Garcia, R. F., Margerin, L., Schimmel, M., Stutzmann, E., Schmerr, N., Bozdog, E., Plesa, A.-C., Wieczorek, M. A., Broquet, A., Antonangeli, D., McLennan, S. M., Samuel, H., Michaut, C., Pan, L., Perrin, C., Smrekar, S. E., Johnson, C. L., Brinkman, N., Mittelholz, A., Rivoldini, A., Davis, P. M., Lognonné, P., Pinot, B., Scholz, J.-R., Stähler, S. C., Knapmeyer, M., van Driel, M., Giardini, D., & Banerdt, W. B. (2021, March). Seismic constraints on the thickness and structure of the Martian crust from InSight. *52nd Lunar and Planetary Science Conference*, Abstract 1590.
23. Izquierdo†, K., Montesi, L. G. J., and **V. Lekic** (2020, March). Views of the Interior of the Moon from a Probabilistic Gravity Inversion Approach. In Lunar and Planetary Science Conference (No. 2326, p. 1580).
24. Izquierdo†, K., **Lekic, V.** and L. Montesi (2019, March). Constraining Density Anomalies in the Interior of Planetary Bodies from Gravity Data Using Bayesian Inference and Voronoi Cells. In Lunar and Planetary Science Conference (No. 2132, p. 2157).
25. Maguire, R., Schmerr, N. C., **Lekic, V.**, Hurford, T., Dai, L. and A. Rhoden (2019, March). Constraining the Thickness of Europa's Ice Shell with Observations of Fundamental Mode Rayleigh Wave Dispersion. In Lunar and Planetary Science Conference (No. 2132, p. 2819).
26. Schmerr, N.C., **Lekic, V.**, Mautino†, A., Plescia, J.B., Paul, M., Richardson, D.C., Yu, H. and J.V. DeMartini (2018, March). The Asteroid Probe Experiment (Apex): Seismology at 99942 Apophis. In Lunar and Planetary Science Conference (No. 2083, p. 2467).
27. Hurford, T.A., Henning, W.G., **Lekic, V.**, Schmerr, N., Panning, M.P., Kattenhorn, S., Manga, M., Nimmo, F., Quick, L.C. and A. R. Rhoden (2018, March). Tidally-driven seismicity: An application to Europa. In Lunar and Planetary Science Conference (No. 2083, p. 2414).
28. Mundl, A., Walker, R. J., Touboul, M., Jackson, M. G., Kurz, M. D., Day, J. M. D., **Lekic, V.** and R. T. Helz (2017, March). 182-W Implications for Silicate Magma Ocean Processes in Terrestrial Planets. In Lunar and Planetary Science Conference (No. 1964, p. 1607).

29. Schmerr, N. C., Garnero, E., Hurford, T., **Lekic, V.**, Panning, M., Rhoden, A. and H. Yu (2017, March). Short Aperture Seismic Arrays on Icy Satellites. In Lunar and Planetary Science Conference (No. 1964, p. 1254).
30. Dye, S.T., Huang, Y., **Lekic, V.**, McDonough, W.F., and O. Šrámek (2015), Geoneutrinos and Earth Models, *Physics Procedia*, **61**: 310:318, doi:10.1016/j.phpro.2014.12.050.

II.E. Conferences, Workshops, and Talks (since 2012)

II.E.1 Keynotes

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| 2013/6/1 | Gordon Research Seminar, Mt. Holyoke, MA. Title: “New mantle structures imaged using full waveform SEM-based tomography” |
| 2013/6/4 | Gordon Research Conference, Mt. Holyoke, MA. Title: “A long period view of LLSVPs” |
| 2013/6/19 | COMPRES annual meeting, Keynote speaker, Lake Geneva, WI. Title: “Emerging consensus on large scale shear wave speed structure in the mantle” |
| 2014/7/7 | Cooperative Institute for Dynamic Earth Research (CIDER), Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA. (video) Title: “Seismology 1: Introduction to body waves, surface waves, seismic sources...” |
| 2015/1/21 | CSEDI Science Plan Workshop, University of California, San Deigo, CA. Title: “Seismological constraints on large and meso-scale structure of the lower mantle.” |
| 2015/10/5 | Ocean Bottom Seismology Symposium, Vancouver, WA. Title: “Lithospheric structure offshore southern California from receiver functions.” |
| 2016/5/25 | NSLS-II User Meeting Workshop, Brookhaven National Laboratory, NY. Title: “Viscosity Jump in the Earth’s Mid Mantle.” |
| 2016/7/5 | Cooperative Institute for Dynamic Earth Research (CIDER), Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA. (video) Title: “Seismology 3: Inverse Theory” |
| 2017/5/18 | EarthScope National Meeting, Anchorage, AK. Title: “What have we learned about the North American lithosphere from EarthScope data.” |
| 2018/6/14 | IRIS 2018 Workshop, Albuquerque, NM. Title: “A Seismically Sound Foundation: Reference Models and Datasets.” |
| 2018/7/13 | Cooperative Institute for Dynamic Earth Research (CIDER), Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA. (video) Title: “Seismology 3: Inverse Theory” and “Seismology Tutorial 1: Tomography” |
| 2020/10/13 | Computational Infrastructure for Geodynamics (CIG), Community Workshop, Virtual. Title: Achievements and Unanswered Questions in Seismic Imaging of Earth’s Interior. |

II.E.2 Invited Talks

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| 2012/1/11 | Geological Society of Washington, DC. Title: “Imaging the bottom of tectonic plates: Rifting in Southern California.” |
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- 2012/4/4 Department of Mineral Sciences, National Museum of Natural History, Smithsonian Institution, Washington, DC. Title: “Lithospheric thinning beneath rifted regions of Southern California.”
- 2012/4/11 Department of Terrestrial Magnetism, Carnegie Institution of Washington, DC. Title: “Lithospheric thinning beneath rifted regions of Southern California.”
- 2012/4/12 Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD. Title: “Lithospheric thinning beneath rifted regions of Southern California.”
- 2012/5/18 Seismological Laboratory, California Institute of Technology, CA, Title: “Lithospheric structure beneath Southern California and the Rio Grande Rift.”
- 2012/7/5 Symposium on the Study of the Earth’s Deep Interior, Leeds, UK. Title: “A re-analysis of lower mantle tomographic models.”
- 2012/9/20 Potomac Geological Society, Washington, DC. Title: “Imaging the bottom of tectonic plates: Rifting in Southern California.”
- 2012/11/13 Colloque international en anglais, Collège de France, Paris, France ([video](#)). Title: “Cluster analysis of global lower mantle tomography: a new class of structure and implications for chemical heterogeneity.”
- 2013/5/9 CIDER Attenuation Workshop, Lamont-Doherty Earth Observatory, Columbia University, New York, NY. Title: “Constraining the frequency dependence of attenuation with free oscillations.”
- 2013/9/20 Department of Geosciences, Princeton University, NJ. Title: “Seismic constraints on the deformation of continental lithosphere”
- 2013/10/9 Dept. of Earth & Space Sciences, University of California, Los Angeles, CA. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2014/1/13 Geological and Planetary Sciences Division, Caltech, CA. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2014/1/22 Department of Geology and Geophysics, Yale University, New Haven, CT. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2014/3/20 Department of Geology and Environmental Sciences, James Madison University, Harrisonburg, VA. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2014/7/1 Geoneutrino Working Group Meeting at the Kavli Institute for Theoretical Physics, Santa Barbara, CA. Title: “Properties of LLSVPs and ULZVs”
- 2015/1/22 Department of Geophysics, School of Earth, Energy, and Environmental Sciences, Stanford University, Palo Alto, CA. Title: “Seismic Constraints on Lithospheric Structure and Deformation.”
- 2015/2/26 Department of Geological Sciences, University of Florida, Gainesville, FL. Title: “Seismic constraints on the structure and deformation of continental lithosphere.”
- 2015/3/12 Distinguished Lecture Series seminar, Department of Geology and Geophysics, University of Utah, Salt Lake City, UT. Title: “Seismic constraints on the structure and deformation of continental lithosphere”

- 2015/4/9 Montana Bureau of Mines and Geology, Montana Tech, Butte, MT. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2015/4/22 Department of Geology, Wayne State University, Detroit, MI. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2015/6/4 Department of Terrestrial Magnetism, Carnegie Institution for Science, Washington, DC. Title: “Lower Mantle Structure Across Scales”
- 2015/9/10 Packard Fellows Meeting, Monterey, CA. Title: “Imaging the Earth’s interior with seismic waves”
- 2015/10/7 Department of Geological Sciences, University of Oregon, Eugene, OR. Title: “Seismic constraints on the structure and deformation of continental lithosphere”
- 2015/11/6 Department of Geosciences, Virginia Tech, Blacksburg, VA. Title: “Constraining lithospheric structure using seismology.”
- 2015/11/10 Department of Physics, University of Maryland, College Park, MD. Title: “Imaging the Earth’s interior using seismic waves.”
- 2016/3/8 Rocky Mountain Science Seminar, USGS, Denver, CO. Title: “Constraining lithospheric structure and deformation beneath the United States.”
- 2016/5/6 CIDER Community Workshop at Point Reyes, CA. Title: “Inferences and implications of a viscosity increase in the mid mantle.”
- 2016/9/4 Geological Society of Washington. Title: “Peering in the Earth with an EarthScope”
- 2016/9/27 Geological Society of America Annual Meeting, Title: “EarthScope-Enabled Insights into the North American Crust and Mantle,” paper no. 202-8.
- 2017/1/25 Department of Physics, Howard University, Title: “Imaging the Earth's deep interior using seismic waves.”
- 2017/2/17 Department of Earth, Environmental and Planetary Sciences, Case Western Reserve University, Title: “Viscosity and Velocity Structure of the Lower Mantle.”
- 2017/11/17 Department of Geophysical Sciences, University of Chicago, Title: “From imaging to hypothesis testing: the future of structural seismology.”
- 2018/3/15 Department of Geological Sciences, Brown University, Title: “From imaging to hypothesis testing: the future of structural seismology.”
- 2018/5/16 Invited talk at SSA joint meeting in Miami, FL, Title: “The 3-D Reference Earth Model: Status and Preliminary Results”
- 2018/5/23 Department of Earth and Planetary Sciences, University of California, Davis, Title: “Imaging Tectonic Plates with Surface and Converted Waves”
- 2018/9/11 Berkeley Seismology Laboratory, University of California, Berkeley, Title: “Imaging Tectonic Plates with Surface and Converted Waves”
- 2019/5/8 UK-SEDI, University College London, Title: “Sequencing Seismic Data and Models”
- 2019/5/15 Bullard Laboratories, Department of Earth Sciences, University of Cambridge, UK, Title: “Constraining Lithospheric Structure Across the United States”

2019/6/4 Solid Earth Science Group, University of Tokyo, Todai, Japan, Title: “Large-Scale Elastic Structure of Lower Mantle with Implications for Viscosity”

2019/6/6 Earth Life Science Institute, Tokyo Tech, Ota City, Japan, Title: “Sequencing Seismic Data and Models”

2019/9/7 Packard Fellows Meeting, Monterey, CA. Title: “A Journey from the Distant Universe to the Center of the Earth”

2020/2/6 Department of Geosciences, University of Arizona, Tucson, AZ, Title: “Promise and Danger in Seismic Inversions from Crust to Core”

2020/2/27 Dept. of Atmospheric, Oceanic, and Earth Sciences, George Mason University, VA, Title: “Promise and Danger in Seismic Inversions from Crust to Core”

2020/12/1 Berkeley Seismological Laboratory, University of California, Berkeley, CA, Title: “Insights from Sequencing Seismic Data and Models”

2021/4/9 Department of Earth and Environmental Sciences, Michigan State University, East Lansing, MI, Title: “Extracting Insights from Geophysical Data and Models”

2022/7/30 Multi-messenger Tomography of Earth (MMTE 2022) Workshop, International Workshop on Neutrinos from Accelerators, Salt Lake City, UT. Title: “Imaging the Earth's Interior using Seismic Waves.”

2022/10/17 Earth and Planets Lab, Carnegie Institution for Science, Washington, DC. Title: “The Interior of Mars Revealed by Seismic Waves.”

2023/9/15 Department of Earth and Environmental Sciences, University of Rochester, NY. Title: “The Interior of Mars Revealed by Seismic Waves”

2023/10/10 Department of Earth and Planetary Sciences, Yale University, New Haven, CT. Title: “The Interior of Mars Revealed by Seismic Waves”

2023/10/5 University of Washington, Department of Earth and Space Sciences. Title “Looking into Mars with InSight”

2023/10/26 Rice University, Department of Earth, Environmental, and Planetary Sciences. Title “Looking into Mars with InSight”

2023/11/7 Galway Geological Association, Ireland (virtual). Title: “Seismic Insights into the Martian Interior”

2024/4/1 AstroTerps, University of Maryland, College Park. Title: “Looking Inside Mars with InSight”

2024/5/9 University of California, Davis. Title “Deciphering Seismic Signals from the Crust to the Core, on Earth and Mars”

2024/5/10 University of California, Davis. Title “Geophysics Teaching and Research in the Age of Machine Learning and Drones”

2025/11/5 Colorado School of Mines, Heiland Lecture. Title “A Tale of Two Worlds: The Core-Mantle Boundaries of Earth and Mars”

2025/11/18 U. of Arizona, Lunar and Planetary Lab. Title “Insights into the Deep Interior and Seismicity of Mars”

- 2025/12/4 GSW Presidential Address. Title “A Tale of Two Worlds: The Core-Mantle Boundaries of Earth and Mars”
- 2026/4/8 Wayne State University. Title: “Decoding Earthquake and Marsquake Waveforms to Reveal Planetary Interiors”
- 2026/4/10 Michigan State University. Title “Decoding Earthquake and Marsquake Waveforms to Reveal Planetary Interiors”
- 2026/4/27 Lamont Doherty Earth Observatory, Columbia University. Title “Decoding Earthquake and Marsquake Waveforms to Reveal Planetary Interiors”

II.E.8 Non-Refereed Presentations

NB: Listed are only abstracts first-authored by myself or students / postdocs under my (co)supervision, or in collaborations where I am among first three authors or am the presenting author. Underlined names represent undergraduate students under direct supervision, (*) denotes postdoctoral researchers under direct supervision, and (†) denotes graduate students under direct supervision.

1. Wang*, J., Schmerr, N., **Lekic, V.** and M. Ballmer, Plume ponding in the mid-upper mantle beneath the South Pacific Superswell revealed by X-discontinuities, AGU Fall Meeting, DI31B-0010, 2025.
2. Zhang*, Z., Kim, D., Olugboji, T.M. and **V. Lekic**, The Martian Crust Outside Elysium Planitia: A View from Probabilistic Body Wave Deconvolution, AGU Fall Meeting, DI23C-0018, 2025.
3. Cunio, D. and **V. Lekic**, Body wave investigation of intrinsic attenuation in Large Low-Velocity Provinces, AGU Fall Meeting, DI31B-0004, 2025.
4. Wang*, J., Schmerr, N.C., McCall, N., Kruse, S., **Lekic, V.**, Whelley, P., Giles J., Wike, L., West, J.D., Porter, R.C., Banks, M.E., Coonan, J., Deykes, N., Shahid, S., Vig, Z. and M. Zanetti, Enhanced Seismic Backscattering for Lava Tube Detection, AGU Fall Meeting, P41E-2658, 2025.
5. Wang*, J., Schmerr, N.C., McCall, M., Bell, E., Richardson, J.A., Whelley, P., Giles, J., Kruse, S., **Lekic, V.**, Porter, R.C., West, J.D. and the GEODES Team, Active Seismic Exploration of Planetary Subsurface via Terrestrial Analog Studies, AGU Fall Meeting, P43A-01, 2025.
6. Moyer†, B., **Lekic, V.**, Schmerr, N.C., Pitarka, A., Kim, K. and S.M. Ezzedine, From Waves to Yields: AI-Powered Insights into Explosion Source Parameters, AGU Fall Meeting, S43A-06, 2025.
7. **Lekic, V.**, Kim, D., Son, J.-H. and V. Dobrosavljevic, Seismic and Mineralogical Evidence for Iron-Rich Hawai’ian Mega Ultralow-Velocity Zone, AGU Fall Meeting, DI24A-01, 2025.
8. Zhang*, Z., **Lekic, V.**, Irving, J.C.E., Kim, D., Maguire, R. and N.C. Schmerr, A transdimensional framework for array-based seismic phase detection and characterization, AGU Fall Meeting, S32A-02, 2025.
9. **Lekic, V.**, Kim, D., Maguire, R., Irving, J.C.E. and N.C. Schmerr, Reading a Marsquake Seismogram: A Case Study of S1222a, AGU Fall Meeting, S41B-03, 2024.

10. **Lekic, V.**, Kim, D., Song, J.-H. and M. Li, Anomalous Seismic Waveforms: Implications for Lowermost Mantle Heterogeneity, AGU Fall Meeting, DI23A-3157, 2024.
11. Hanna†, A.M., Mikucki, J. and **V. Lekic**, Fingerprinting *Schewanella frigidimarina* using Laser Desorption Mass Spectrometry: Implications for the Search for Life on Ocean Worlds, AGU Fall Meeting, P41E-2941, 2024.
12. Moyer†, B., Burdick, S., Schmerr, N.C. and **V. Lekic**, The Long or the Short of It: Optimizing Chain Length and Number in a Probabilistic Joint Inversion Framework, AGU Fall Meeting, NS21A-03, 2024.
13. Myers†, H. P, Taffel, M., Lathrop, D.P. and **V. Lekic**, UAV-Based Multi-Modal Geophysical Techniques for the Detection and Characterization of Landmines, UXO, and ERW, AGU Fall Meeting, NS14A-01, 2024.
14. Kim, D., **Lekic, V.**, Schmerr, N.C., Collins, G.S., Panning, M.P. and M. Wiecek, Thickness of the Lunar Crust from Converted Seismic Waves Detected beneath Apollo Seismic Network, AGU Fall Meeting, DI33A-2970, 2024.
15. Clark, M., Kim, D., Maguire, R., Moore, C., **Lekic, V.**, Schmerr, N.C., and J.C.E. Irving, Constraining Source Depths of Marsquakes in Cerberus Fossae Using Seismic Source Array Analysis, AGU Fall Meeting, DI32A-06, 2024.
16. Pick-Aluas, A., Jaross, E., **Lekic, V.** and D.P. Lathrop, A Frequency-Domain EM System for Near-Surface Conductivity Mapping in Urban Environments, AGU Fall Meeting, NS13B-1235, 2024.
17. Lathrop, D.P., Myers†, H. P, Taffel, M., Pick-Aluas, A. and **V. Lekic**, An Unmanned Aerial System for Detecting Near-Surface Anomalies in Urban Environments, AGU Fall Meeting, NS13B-1236, 2024.
18. Heidtman, E., Prestegard, K. and **V. Lekic**, The Pacific Decadal Oscillation and Other High-Elevation Drivers of Snowpack in the American West, AGU Fall Meeting, C33C-0459, 2024.
19. Ravinsky-Gray, Y. and **V. Lekic**, Maryland Seismicity: Insights from Moment Tensor Inversion with a Sparse Seismic Network, AGU Fall Meeting, T53B-3212, 2024.
20. Udell-Lopez, K., Huang, M.-H. and **V. Lekic**, Using Rate-and-State Friction Constitutive Laws to Predict Accurate Analytical Seismicity Rates for Ice Rifts on the Ross Ice Shelf in Antarctica, AGU Fall Meeting, T13D-08, 2024.
21. Ajala, R., Kolawole, F. and **V. Lekic**, Gradient-Based Transdimensional Inversion of Plane Wave Records, AGU Fall Meeting, S41E-3350, 2024.
22. Giles, J., Schmerr, N.C., Bell, E., **Lekic, V.**, Wang, J., Richardson, J.A., Porter, R.C. and K. Young, Challenges in Imaging the Shallow Subsurface for Lunar Exploration using Seismic Surface Waves, AGU Fall Meeting, P31C-2824, 2024.
23. Wang*, J., Schmerr, N.C., **Lekic, V.** and M. Ballmer, Global Characteristics of the X-Discontinuity from SS Precursors, AGU Fall Meeting, AGU Fall Meeting, DI41A-3058, 2024.

24. Myers†, H. P., Moyer†, B., Pick-Aluas, A., Lathrop, D.P., Taffel, M. and **V. Lekic**, Detecting UXO and Landmines in Realistic Minefield Conditions using Multi-Modal Geophysical Data, AGU Fall Meeting, NS43A-06, 2023.
25. Wang*, J., Schmerr, N.C., Bell, E., McCall, N., **Lekic, V.**, Richardson, J.A., Young, K., Whelley, P., Wasser, M., Barry, C., Braccia, C., Wike, L., Giles, J., Rees, S., West, J.D., Hurtado, J.M., Sweeney, T. and N.V. Garay, Integrated Seismic Reflection, Refraction, and Rayleigh Wave Imaging for Lunar Subsurface Explporation: Results from an Analog Site at Kilbourne Hole, New Mexico, AGU Fall Meeting, P11D-2748, 2023.
26. Moyer†, B., Myers†, H. P., Schmerr, N.C. and **V. Lekic**, Bayesian Inversion of Magnetic Data with Improvements from Constrained Low-Rank Approximation and Quasi-Random Sampling, AGU Fall Meeting, GP33D-0590, 2023.
27. Wang*, J., **Lekic, V.**, Schmerr, N., Gu, Y.J., Guo, Y. and R. Lin, Evidence for Ancient Intraoceanic Subduction beneath the Nazca Plate, AGU Fall Meeting, DI23A-04, 2023.
28. Udell-Lopez, K., M.-H. Huang and **V. Lekic**, Tidally Modulated Icequake Periodicity and its Implications for Rift Zone Dynamics, AGU Fall Meeting, C12B-05, 2023.
29. Giles†, J., Schmerr, N.C., Bell, E., **Lekic, V.**, Wang, J., Richardson, J.A., Porter, R.C. and K. Young, Imaging the Shallow Subsurface for Lunar Analog Exploration Using Surface Wave Group Velocity Inversion, AGU Fall Meeting, P11D-2752, 2023.
30. Maguire, R., **Lekic, V.**, Kim, D., Schmerr, N.C., Li, J., Beghein, C., Huang, Q., Irving, J.C.E., Karakostas, F., Lognonne, P., Stahler, S. and W.B. Banerdt, Focal Mechanism Estimation of S1222a, the Largest Recorded Marsquake, AGU Fall Meeting, P41I-3287, 2023.
31. Kim, D., **Lekic, V.**, Banerdt, W., Bozdog, E., Drilleau, M., Duran, C., Giardini, D., Knapmeyer-Endrun, B., Lognonne, P., Panning, M., Plesa, A.-C., Samuel, H. and M. Wieczorek, Global 3-D Crustal Structure of Mars Constrained by Seismic Body and Surface Waves and Geodetic Measurements, AGU Fall Meeting, P41I-3291.
32. Rudolph, M., Mills, C. and **V. Lekic**, Extracting representative models from ensemble solutions to geophysical inverse problems, AGU Fall Meeting, S11E-0314, 2023.
33. Lathrop, D., Myers†, H. P., **Lekic, V.**, Jaross, E. and S. Wang, A geophysical sensor suite for detecting near-surface anomalies in urban environments, AGU Fall Meeting, NS41C-0548, 2023.
34. Myers†, H. P., **Lekic, V.**, & Lathrop, D. P. Optimizing Multi-Sensor Geophysical Observations on a UAV for UXO Detection. *In Symposium on the Application of Geophysics to Engineering and Environmental Problems*. Society of Exploration Geophysicists and Environment and Engineering Geophysical Society, 2022.
35. Khatib†, A., Schmerr, N.C. and **V. Lekic**, Classifying deep moonquakes using machine learning algorithms, 53rd Lunar and Planetary Science Conference, 2393, 2022.
36. Kim*, D., **Lekic, V.**, Mundl-Petermeier, A., Finlayson, V. and R.J. Walker, Sequencing core diffracting seismic phases: implications for mega-ULVZ properties (Invited), AGU Fall Meeting, DI34A-01, 2021.

37. Kim*, D., **Lekic, V.**, Myers, H., Wike, L., Schmerr, N. and R.R. Ghent, Towards a quantitative understanding of the relationship between properties of seismic waveforms and the underlying scattering media, AGU Fall Meeting, P15C-2119, 2021.
38. Myers[†], H. P., **Lekic, V.** and D. P. Lathrop, Assessing the suitability of UAV-mounted geophysical sensors for UXO detection, AGU Fall Meeting, NS31A-01, 2021.
39. Mills, C., Rudolph, M. and **V. Lekic**, Identifying Central Tendencies in Ensemble Solutions to Geophysical Inverse Problems, AGU Fall Meeting, S15F-0308, 2021.
40. Khatib, A., Schmerr, N.C., **Lekic, V.** and R. Maguire, Classifying Deep Moonquakes Using Convolutional Neural Nets and Synthesized Seismic Data, AGU Fall Meeting, S32A-08, 2021.
41. Izquierdo[†], K., Montesi, L., and **V. Lekic**, Inferences of the lunar interior from a probabilistic gravity inversion approach, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-22202, <https://doi.org/10.5194/egusphere-egu2020-22202>, 2020.
42. **Lekic, V.**, Kim, D., Huang, M.-H. and B. Menard, Gleaning insights from sequencing geophysical timeseries, Seismological Society of America Meeting, Albuquerque, NM, 2020.
43. Cunningham[†], E., Wagner, L. and **V. Lekic**, Invited: Relationship between crustal structure and intraplate seismicity beneath the south-eastern United States, Seismological Society of America Meeting, Albuquerque, NM, 2020.
44. Kim*, D., **Lekic, V.**, Huang, M. and T. Taira, Toward Large-Scale Groundwater Monitoring with Seismic and Geodetic Data: Case Study and Future Directions, Seismological Society of America Meeting, Albuquerque, NM, 2020.
45. Pearson[†], K., **Lekic, V.**, Wagner, L., Roman, D. and W.-Y. Kim, Low Aftershock Productivity from the 30 November 2017 Delaware Earthquake, Seismological Society of America Meeting, Albuquerque, NM, 2020.
46. Kim*, D., **Lekic, V.**, Menard, B., Mundl-Petermeier, A., Finlayson, V. and R.J. Walker, A Panoptic View of Scattering in the Core-Mantle Boundary Region of the Pacific, AGU Fall Meeting, DI017-08, 2020.
47. Moulik*, P., **V. Lekic**, and B. A. Romanowicz, The 3D Reference Earth Model Project: Reconciled Data, Full-spectrum Tomography and Community Tools, AGU Fall Meeting DI003-08, 2020.
48. **Lekic, V.**, Menard, B., and D. Kim*, Sequencing Geophysical Signals to Glean Structural Insights, AGU Fall Meeting, S057-07, 2020.
49. Myers[†], H. P., **Lekic, V.** and D. P. Lathrop, A Comparative Assessment of Machine Learning Techniques for UXO Detection using Geophysical Sensors, AGU Fall Meeting , NS015-02, 2020.
50. Pearson[†], K.M., **Lekic, V.**, Kim*, D. and M.H. Huang, M.H, Toward Understanding Anomalous Low Aftershock Productivity, AGU Fall Meeting, S038-0015, 2020.
51. Kim*, D., **Lekic, V.**, Schmerr, N.C., Richardson, J.A., Bell, E., Jazayeri, S., Young, K. and R.R. Ghent, R.R, Towards Joint Inversion of Geophysical Datasets in Planetary Analog Studies, AGU Fall Meeting, P063-10, 2020.

52. Moulik*, P., **Lekic, V.**, Ekstrom, G. and B.A. Romanowicz, Earth's Bulk Structure and Heterogeneity from Big Data and Full-Spectrum Tomography, AGU Fall Meeting Abstracts, U42B-03, 2019.
53. Cunningham[†], E., **Lekic, V.** and L.S. Wagner, Lithospheric Structure in the Southeastern US using Reverberation-Corrected Receiver Functions, AGU Fall Meeting, DI13B-0006, 2019.
54. Kim*, D., **Lekic, V.** and B. Menard, Systematic study of Sdiff scattering in the Pacific Basin using a new manifold learning algorithm, AGU Fall Meeting, DI33C-0065, 2019.
55. **Lekic, V.**, Kim*, D., Baron, D., and B. Menard, Sequencing Seismic Data and Models, Seismological Society of America Meeting, April 23-26, Seattle, Washington, 2019.
56. Pearson[†], K.M., **Lekic, V.**, Pratt, T.L., Roman, D.C., Wagner, L.S. and W.-Y. Kim, Aftershock monitoring with a heterogeneous seismic network, Seismological Society of America Meeting, Seattle, Washington, 2019.
57. Olugboji, T., Moulik, P., Plattner, A. and **V. Lekic.**, Regionalized properties of the lowermost mantle from spherical Slepian analysis, Seismological Society of America Meeting, Seattle, Washington, 2019.
58. Irving, J., Cottaar, S., **Lekic, V.** and W. Wu, Seismological explorations of Earth's outer core: normal mode and body wave analyses, Seismological Society of America Meeting, Seattle, Washington, 2019.
59. Irving, J., Cottaar, S., **Lekic, V.** and W. Wu, Seismological models of Earth's outer core derived from normal mode data, Geophysical Research Abstracts, EGU General Assembly, EGU2018-10357, 2018.
60. Burdick, S., **Lekic, V.**, and L. Waszek, Exploring deep Earth structure and its uncertainty with transdimensional tomography, Geophysical Research Abstracts, EGU General Assembly, vol. 20, EGU2018-11389, 2018.
61. Gao[†], C., Cunningham[†], E. and **V. Lekic**, Spurious Low Velocity Zones in Joint Inversion of Surface Waves and Receiver Functions, AGU Fall Meeting, DI005, 2018.
62. Cunningham[†], E. and **V. Lekic**, Constraining sedimentary basins in the Southeastern US using P-to-s Receiver Functions, AGU Fall Meeting, S030, 2018.
63. Izquierdo[†], K., Montesi, L. and **V. Lekic**, Using Bayesian Inference to Constrain Density Anomalies Inside Celestial Bodies from Gravity Data, AGU Fall Meeting, P024, 2018.
64. Goodling[†], P., Prestegard, K. and **V. Lekic**, Characterizing along-stream variability in energy dissipation using seismic observations, AGU Fall Meeting, S008, 2018.
65. Maguire*, R., Schmerr, N., **Lekic, V.**, and T. Hurford, Performance of a broadband seismometer on Europa and implications for the detection of liquid water below its icy surface, AGU Fall Meeting, P020, 2018.
66. **Lekic, V.**, Moulik*, P. and B. Romanowicz, 3D Reference Earth Model: Regionalized and Smooth Flavors, AGU Fall Meeting, DI004, 2018.
67. Moulik*, P., **Lekic, V.** and B. Romanowicz, REM-3D Reference Datasets: Reconciling large compilations of normal mode, body and surface wave observations, AGU Fall Meeting, DI004, 2018.

68. Moulik*, P., Havlin, C., Maguire, R., and **V. Lekic**, Real-time interactive analyses and visualization of massive and diverse seismological observations, AGU Fall Meeting, DI007, 2018.
69. Pearson[†], K., Kim, W.-Y., Pratt, T. and **V. Lekic**, Insights from Aftershocks of the 30 November 2017 Dover, DE, Earthquake, AGU Fall Meeting, T022, 2018.
70. Hariharan, A., Moulik*, P. and **V. Lekic**, Probing Mantle Heterogeneity across Spatial Scales: Global Blindspots and Chimeric Models, AGU Fall Meeting, S010, 2018.
71. **Lekic, V.**, Moulik*, P. and B. Romanowicz, Invited: The 3-D Reference Earth Model: Status and Preliminary Results, *Seismological Research Letters*, 89(2B), 2018.
72. Pearson[†], K., Thomas, A.M. and **V. Lekic**, Determining periodicity in non-homogeneous catalogs using a modified Schuster test with application to induced seismicity in Oklahoma, *Seismological Research Letters*, 89(2B), 2018.
73. Cottaar, S., Irving, J. and **V. Lekic**, Updated outer core reference model from a Bayesian inversion of normal mode eigenfrequencies, Geophysical Research Abstracts, EGU General Assembly, vol. 19, EGU2017-10683, 2017.
74. Cottaar, S. and **V. Lekic**, Implications for mantle dynamics based on isotropic and anisotropic velocity variations above the core-mantle boundary, Geophysical Research Abstracts, EGU General Assembly, vol. 19, EGU2017-4803, 2017.
75. Olugboji*, T., Moulik*, P., Plattner, A. and **V. Lekic**, Intra-LLSVP heterogeneity from spherical slepian analysis, *AGU Fall Meeting*, DI31A-0387, 2017.
76. Cunningham[†], E. and **V. Lekic**, Lithospheric structure and relationship to seismicity beneath the Southeastern US using receiver functions, *AGU Fall Meeting*, T11A-0442, 2017.
77. Goodling[†], P., **V. Lekic** and K.L. Prestegard, Seismic analysis of the 2017 Oroville Dam Spillway Erosion Crisis, *AGU Fall Meeting*, EP53C-1761, 2017.
78. Hariharan, A., Moulik*, P. and **V. Lekic**, Probing mantle heterogeneity across spatial scales, *AGU Fall Meeting*, DI31A-0389, 2017.
79. Burdick*, S., Waszek, L. and **V. Lekic**, Anisotropic structure of the Inner Core and its uncertainty from transdimensional body-wave tomography, *AGU Fall Meeting*, DI33B-0409, 2017.
80. Gao[†], C. and **V. Lekic**, Quantifying uncertainties of seismic Bayesian inversion of Northern Great Plains (Invited), *AGU Fall Meeting*, U13B-06, 2017.
81. Gao[†], C. and **V. Lekic**, Assessing the uncertainties of seismic velocity and anisotropy structure of Northern Great Plains using a transdimensional Bayesian approach, *AGU Fall Meeting*, S23A-0774, 2017.
82. **Lekic, V.**, Moulik*, P. and B. Romanowicz, The 3D Reference Earth Model: Status and Preliminary Results, *AGU Fall Meeting*, DI44A-08, 2017.
83. Izquierdo[†], K., **V. Lekic** and L. Montesi, Constraining mass anomalies in the interior of spherical bodies using transdimensional Bayesian hierarchical inference, *AGU Fall Meeting*, S32B-04, 2017.
84. Chiorini, S. and **V. Lekic**, Characteristics of swarm seismicity in Northern California, *AGU Fall Meeting*, S53B-0706, 2017.

85. Moulik*, P., **Lekic, V.** and B. Romanowicz, REM-3D Reference Datasets: Reconciling large and diverse compilations of travel-time observations, *AGU Fall Meeting*, DI31A-0388, 2017.
86. Washington, B., **Lekic, V.** and N.C. Schmerr, Characterizing the seismic ocean bottom environment of the Bransfield Strait, *AGU Fall Meeting*, S21C-0734, 2017.
87. Ballmer, M., **Lekic, V.**, Schumacher, L., Ito, G. and C. Thomas, Compositional layering within the large low shear-wave velocity provinces (LLSVPs) in the lower mantle, Geophysical Research Abstracts, EGU General Assembly, vol. 18, EGU2017-13620, 2016.
88. Burdick*, S., Moulik*, P., Waszek, L. and **V. Lekic**, Whole Earth P-wave structure from transdimensional tomography, *AGU Fall Meeting*, DI23C-04, 2016.
89. Izquierdo†, K., Montesi, L. and **V. Lekic**, Constraining mass anomalies using trans-dimensional gravity inversions, *AGU Fall Meeting*, NS41A-1892, 2016.
90. Eagon, A.J., Waszek, L., **Lekic, V.**, Schmerr, N.C., and A. M. Bishop Courtier, Constraining mantle discontinuity structure beneath North America using ScS reverberations, *AGU Fall Meeting*, D111A-2322, 2016.
91. **Lekic, V.**, Moulik*, P., Romanowicz, B. and A.M. Dziewonski, The 3D reference Earth model (REM-3D): Update and outlook, *AGU Fall Meeting*, DI31A-2617, 2016.
92. Moulik*, P., **Lekic, V.** and B. Romanowicz, REM-3D reference dataset: Reconciling ~100 million surface-wave observations, *AGU Fall Meeting*, DI31A-2618, 2016.
93. Gao†, C. and **V. Lekic**, Quantifying the uncertainties and multi-parameter trade-offs in joint inversion of receiver functions and surface wave velocity and ellipticity, *AGU Fall Meeting*, NS31B-02, 2016.
94. Cunningham†, E. and **V. Lekic**, Constraining crustal structure in sediment dominated regions: an H-k-V stacking method, *AGU Fall Meeting*, S32C-03, 2016.
95. Chiorini, S., Thomas, A. and **V. Lekic**, Catalog and characteristics of earthquake swarms in Northern California, *AGU Fall Meeting*, S53A-2819, 2016.
96. Olugboji*, T.M., **Lekic, V.**, Burdick*, S. and C. Gao†, Multi-scale probabilistic seismic imaging with the USArray (Invited), *AGU Fall Meeting*, T22D-05, 2016.
97. Cottaar, S. and **V. Lekic**, Morphology of large and meso-scale slow provinces in the lowermost mantle, Geophysical Research Abstracts, EGU General Assembly, vol. 17, EGU2017-6575, 2015.
98. Mautino†, A., Adams, M., Stone, D., Triana, S., Lathrop, D., and **V. Lekic**, Assessment of and improvements to acoustic velocimetry in flows in core-like geometries, *AGU Fall Meeting*, P41A-2046, 2015.
99. Schnurr, J., Olugboji*, T., and V. Lekic, Investigating Sources of Uncertainty in Surface Wave Ellipticity Measurements across the USArray, *AGU Fall Meeting*, S21B-2681, 2015.
100. Burdick*, S. and **V. Lekic**, Investigating the Farallon Slab with Probabilistic Traveltime Tomography (Invited), *AGU Fall Meeting*, T24A-04, 2015.
101. Gao†, C., **Lekic, V.**, and T. Olugboji*, Constraining anisotropy in the US continental lithosphere using a joint inversion of receiver function and ambient noise data, *AGU Fall Meeting*, S14A-05, 2015.

102. Olugboji*, T., **V. Lekic**, Gao†, C., and W. McDonough, Evaluating models of the US Continental Crust using Ambient Noise Datasets: A Transdimensional Approach, *AGU Fall Meeting*, T11A-2860, 2015.
103. Guandique, J., Burdick*, S., and **V. Lekic**, Characterizing waveform uncertainty due to ambient noise for the Global Seismic Network, *AGU Fall Meeting*, S21B-2692, 2015.
104. Griebel, K., Schmerr, N., Courtier, A., and **V. Lekic**, Imaging Mantle Discontinuities Beneath North America Using ScS Reverberations, *AGU Fall Meeting*, D151A-2605, 2015.
105. **Lekic, V.** and S. Cottaar, Morphology of Large- and Meso-scale structures in the Mid and Lower Mantle, *AGU Fall Meeting*, D143B-08, 2015.
106. **Lekic, V.**, Gao†, C., Olugboji*, T., and S. Burdick*, Quantifying Uncertainty Across an Array of Seismic Applications (Invited), *AGU Fall Meeting*, S31B-04, 2015.
107. Cunningham†, E. and **V. Lekic**, The structure of continental crust: comparison of body wave apparent incidence angle and receiver function results, *AGU Fall Meeting*, T11D-2915, 2015.
108. Burdick*, S. and **V. Lekic**, Global traveltime tomography with USArray Transportable Array Data (Invited), *EarthScope National Meeting*, Stowe, VT, June 15-17, 2015.
109. Gao†, C., Olugboji*, T., and **V. Lekic**, Development of a transdimensional Bayesian joint inversion and its application of USArray ambient noise tomography, *EarthScope National Meeting*, Stowe, VT, June 15-17, 2015.
110. Olugboji*, T., Schnurr, J., Gao†, C., Cunningham†, E., Burdick*, S., **V. Lekic**, McDonough, and W., R. Rudnick, The Composition of the US Continental Crust: A Transdimensional Approach, *Gordon Research Conference, Interior of the Earth*, South Hadley, MA, June 7-12, 2015.
111. **Lekic, V.**, Cottaar, S., and J. Matas, Large- and meso-scale structure of Low Shear Velocity Provinces (Invited), *AGU Fall Meeting*, D133B-05, 2014.
112. Gao†, C. and **V. Lekic**, Transdimensional Bayesian joint inversion of complementary seismic observables with realistic data uncertainties, *AGU Fall Meeting*, S53A-4489, 2014.
113. Cunningham†, E., **V. Lekic**, New seismic observables constrain structure within the continental lithosphere, *AGU Fall Meeting*, T32A-03, 2014.
114. **Lekic, V.**, French, S.W., B.A. Romanowicz, Low velocities in the oceanic upper mantle and their relation to plumes: insights from SEM-based waveform tomography, *AGU Fall Meeting*, D121A-2267, 2013.
115. Reeves†, Z.A., **Lekic, V.**, Weeraratne, D.S., M.D. Kohler, Constraining Lithospheric Structure across the California Borderland using Receiver Functions, *AGU Fall Meeting*, S31A-2343, 2013.
116. **Lekic, V.**, Fischer, K.M. Contrasting Lithospheric Signatures Across the Western United States Revealed by Sp Receiver Functions, *EarthScope National Meeting*, 2013.
117. **Lekic, V.**, Matas, J. Constraining lateral temperature and attenuation variations in the lower mantle, *AGU Fall Meeting*, D144A-02, 2012.
118. Cunningham, E.E., Frassetto, A., **Lekic, V.** Obtaining interpretable receiver functions to study lithospheric structure in the central US, *AGU Fall Meeting*, T53C-2722, 2012.

119. **Kandell, A., Lekic, V.,** Stine, A. Antarctic microseism: relationship with sea ice extent and the southern annual mode, *AGU Fall Meeting*, S53C-2524, 2012.
120. **Kolb, J., Lekic, V.** A robust deconvolution method based on transdimensional hierarchical Bayesian inference, *AGU Fall Meeting*, S43A-2465, 2012.
121. **Lekic, V.,** Fischer, K.M. Lithospheric structure of the Rio-Grande Rift and the Colorado Plateau, *AGU Fall Meeting*, T13C-2405, 2011.
122. **Lekic, V.,** French, S. W., Fischer, K. M. Lithospheric Structure Beneath the Salton Trough/Gulf of California Region from Sp Receiver Functions, *AGU Fall Meeting*, T21G-05 2010.
123. **Lekic, V.** and B. Romanowicz, Joint inversion of long period waveform and surface wave dispersion data for crust and mantle structure using the Spectral Element Method, *AGU Fall Meeting*, U23D-0060, 2009.
124. **Lekic, V.** and B. Romanowicz. Global upper mantle radially anisotropic model developed using the spectral element method. *AGU Fall Meeting*, D11A-04, 2008.
125. **Lekic, V.** and B. Romanowicz. Finite frequency upper mantle tomography using the spectral element method. *AGU Fall Meeting*, S32A-05, 2007.
126. **Lekic, V.** and B. Romanowicz. Applying the spectral element method to tomography: crustal effects. *Wilhelm and Else Heraeus Seminar: Density, Temperature and Elastic Constants of Earth's Mantle II*, Linderhof, Germany, 2007.
127. **Lekic, V.,** Reif, C., Dziewonski, A., Sheehan, A., van Summeren, J. Seismic constraints on slab interaction with the transition zone. *AGU Fall Meeting*, U21A-0809, 2006.
128. **Lekic, V.** and B. Romanowicz. Applying the spectral element method to model 3D attenuation in the upper mantle. *AGU Fall Meeting*, S51A-1257, 2006.
129. **Lekic, V.,** Capdeville, Y., Romanowicz, B. Towards a high resolution 3D attenuation model of the upper mantle. *AGU Fall Meeting*, T23A-0536, 2005.
130. **Lekic, V.,** Dunn, R., Toomey, D., Detrick, R. Shallow mantle and crustal structure beneath the Mid-Atlantic Ridge (35N): melt supply and crustal construction. *AGU Fall Meeting*, V11E-0546, 2004.

II.E.14 Workshops

1. Co-Chair of the Seismological Society of America Annual Meeting in Baltimore, MD 2025.
2. Scientific Program Committee Member for the 2023 International Workshop on Multi-messenger Tomography of the Earth, held at APC-Universite Paris Cite, July 4-7, 2023. <https://indico.in2p3.fr/event/30001/page/3400-organizing-committees>
3. Discussion Leader for the 2023 Interior of the Earth Gordon Research Conference (GRC), held at Mt. Holyoke College, MA, June 18-23, 2023. <https://www.grc.org/interior-of-the-earth-conference/2023/>
4. Science Planning Committee Member for the 2022 SAGE/GAGE Community Science Workshop of the Incorporated Research Institutions for Seismology and UNAVCO, Pittsburgh, PA, June 14-16, 2022. <https://www.iris.edu/hq/workshops/2022/06/csw>

5. Co-organizer of the Plenary Session on *Behavior at and Coupling across Key Earth Interfaces*, 2021 GAGE/SAGE Community Science Workshop of UNAVCO and the Incorporated Research Institutions for Seismology, Online, August 17-19, 2021.
<https://www.unavco.org/event/gage-sage-2021-science-workshop>
6. Co-organizer of the Cooperative Institute for Dynamic Earth Research (CIDER) Summer School on the nature, origin, and consequences of mantle heterogeneity to be held at the Kavli Institute for Theoretical Physics at University of California, Santa Barbara, July 8-August 4, 2018. <https://www.deep-earth.org>
7. Co-organizer of Cooperative Institute for Dynamic Earth Research (CIDER) workshop on tying observational and experimental investigations of seismic attenuation, held at the Lamont-Doherty Earth Observatory, Columbia University, New York, May 9-11, 2013.
<https://www.deep-earth.org>
8. Chief organizer for Cooperative Institute for Dynamic Earth Research (CIDER) workshop on the development of a three-dimensional reference seismic Earth model, held at the University of Maryland, College Park, April 26-27, 2013.

II.F Professional and Extension Publications

II.F.1 Reports and Non-Refereed Monographs

1. Arrowsmith, J R., Brodsky, E. E., Cooper, C. M., Elliott, J. L., Fee, D., Fischer, K.M., Hammond, W. C., La Femina, P., **Lekic, V.**, Wang, H., and Worthington, L. L., Recommendations for Enabling Earth Science Through NSF's Geophysical Facility – A Portfolio Review of EAR Seismology and Geodesy Instrumentation, Report to the US National Science Foundation, April 2021 <https://www.nsf.gov/geo/adgeo/ear-instrumentation-review/AC-GEO-EAR-Instrumentation-Portfolio-Review-April-2021%20Report.pdf>

II.J Sponsored Research

II.J.1 Grants

1. Principal Investigator on "Marsquake Source Array Processing: Constraining the Structure of the Martian Interior with *InSight* Data," Sponsored by NASA – Mars Data Analysis Program, 8/2024 – 8/2027.
2. Co-Investigator on "Geophysical Exploration of the Dynamics and Evolution of the Solar System (GEODES)," Sponsored by NASA - Ames Research Center. 10/2019-10/2024.
3. Co-Investigator on "PFI-RP: Automatic detection of buried explosives using a multi-sensor smart aerial vehicle," Sponsored by National Science Foundation. 12/2020-12/2023.
4. Co-Investigator on "Exploring the interior of Mars and the Moon using object-oriented gravity inversions," Sponsored by NASA - Goddard Space Flight Center. 3/2020-3/2023.
5. Co-Investigator on "Sequencing the CVM: Looking for Lithotectonic Blocks in Southern California in Seismic Models using Machine Learning" Sponsored by Southern California Earthquake Center (Prime: National Science Foundation) during 2/2021-1/2023.

6. Principal Investigator on “Collaborative Research: Developing a Three-Dimensional Seismic Reference Earth Model (REM-3D) in Collaboration with the Community” funded by the National Science Foundation Geophysics Program in the amount of \$345,000 during 7/2014 – 6/2021.
7. Principal (Sole) Investigator on “CAREER: Seismic Imaging of Large-Scale Structure in the Lithosphere and the Core-Mantle Boundary Region” funded by the National Science Foundation Geophysics Program and the Division of Advanced Cyberinfrastructure (ACI) Program in the amount of \$647,000 during 7/2014 – 6/2019.
8. Co-Investigator on “Collaborative Research: Bayesian Estimation of Mantle Viscosity Structure and Geodynamic Implications” funded by the National Science Foundation Geophysics Program in the amount of \$39,976 during 9/2016-8/2018.
9. Co-Investigator on “Constraining Europa’s Interior Structure and Rotation History through Tidal Tectonic Modeling” funded by National Aeronautics and Space Administration Outer Planets Research in the amount of \$13,434 during 6/2016 – 5/2017.
10. Co-Investigator on “CSEDI Collaborative Research: Investigating the Nature of the Subcontinental Upper Mantle” funded by the National Science Foundation Collaborative Studies of the Earth’s Deep Interior Program in the amount of \$259,998 during 9/2014-8/2016.
11. Principal Investigator on Working Group proposal “Development of a 3D seismic reference Earth model” funded by the Collaborative Institute for Dynamic Earth Research in the amount of \$20,000 during 2013.
12. Co-investigator on Working Group proposal “On the Interpretation of Upper Mantle Seismic Attenuation Measurements” funded by the Collaborative Institute for Dynamic Earth Research in the amount of \$20,000 during 2013.

II.M Patents

Patent (US) no. 12461273

Title: Vehicle-Based Anomaly Detection Using Artificial Intelligence and Combined Environmental and Geophysical Sensor Data.

II.O Other Research/Scholarship/Creative Activities

1. Co-organized web-based seminar on identifying and discussing major scientific targets in global seismology for the Incorporated Research Institutions for Seismology *Wavefields* Initiative (August 22nd, 2014).
2. Co-organized web-based seminar on identifying and discussing major scientific targets in regional seismology for the Incorporated Research Institutions for Seismology *Wavefields* Initiative (September 8th, 2014).
3. Co-organized Incorporated Research Institutions for Seismology Workshop Plenary Session: Advancing Earth System Science with Geophysical Observations (June 12-14th, 2018).
4. Co-organized Plenary Session “Behavior at and coupling across key Earth interfaces” a.t the GAGE/SAGE 2021 Community Science Workshop (August 17-19, 2021)

5. Member of 4-person Science Planning Committee for the SAGE/GAGE 2022 Community Science Workshop which developed the scientific program and designed the plenary sessions. The workshop focused on cutting edge geophysical results about processes in the solid earth, cryosphere, oceans and atmosphere and highlighting synergies between the seismology and geodesy communities.
6. Co-Chair of the Seismological Society of America Annual Meeting to be held in Baltimore, MD in April, 2025.

II.P Research Fellowships, Prizes and Awards

2025-2026	Computational Infrastructure for Geodynamics Distinguished Speaker
2022	AAAS Newcomb Cleveland Prize given to the best paper published in Science magazine (for Stahler et al. 2021)
2022	University of Maryland Invention of the Year (Information Sciences): Vehicle-Based Anomaly Detection Using Artificial Intelligence and Combined Environmental and Geophysical Sensor Data Website with more information
2016	Kavli Fellow, National Academy of Sciences
2015	University of Maryland, College Park Board of Visitors Distinguished Junior Faculty Award
2014-2015	<i>EarthScope</i> Speaker Series Speaker Website with more information
2014-2019	Packard Foundation Fellowship for Science and Engineering Website with more information.
2014-2019	National Science Foundation CAREER Award Website with more information.
2013	Charles F. Richter Award, Seismological Society of America Website with more information.
2010-2012	National Science Foundation Postdoctoral Fellowship
2006-2009	National Science Foundation Graduate Research Fellowship
2004-2006	Berkeley Fellowship, University of California, Berkeley

III. TEACHING, MENTORING, AND ADVISING

III.A Courses Taught

Description of Courses Taught

GEOL 200: Earth's Fury

This I-Series course is built around the questions of how scientists study hazards and how societies prepare for these rare but dramatic events? In a very interactive class environment and through hands-on exercises and reading discussions in sections, students study the science behind earthquakes and volcanoes, how it guides monitoring, forecasting, prevention, and response, and the cultural and ethical aspects of these events.

Taught in: Fall 2014, Fall 2016, Fall 2018, Fall 2020, Fall 2022

GEOL 447 & 647: Observational Geophysics

This course aims to introduce advanced undergraduate students and beginning graduate students to instrument design/performance, signal processing, data analysis and inverse theory in geophysics. Students learn how geophysical instruments work, how to relate their output to physical quantities, how to identify and apply a variety of signal processing and data analysis techniques. Students learn to formulate, solve and evaluate geophysical inverse problems and develop MATLAB programming skills.

The format of the course is unusual: lectures alternate with in-class MATLAB-based practicals, in which students learn how to apply and implement the ideas they learn in the lectures to actual geophysical datasets.

Taught in: Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2020, Spring 2022, Spring 2023, Spring 2024, Spring 2025, Spring 2026

GEOL 457 & 657: Seismology and Seismic Wave Propagation

This course aims to introduce advanced undergraduate students and beginning graduate students to earthquakes and seismic wave generation and propagation. Students learn about stress and strain, the seismic wave equation, methods for calculating wave propagation through layered and heterogeneous media, imaging of shallow structure using seismic reflection, converted-wave and tomographic imaging of global structure. The final third of the course focuses on describing seismic sources – earthquakes, tremor, slip – understanding rate-and-state friction and ways of characterizing seismic hazard.

Taught in: Spring 2013, Spring 2014, Spring 2016, Spring 2018, Spring 2021

GEOL 789E: Inverse Problem Theory

This graduate seminar is designed to engage graduate students with the theory and practice of solving inverse problems. The course is framed in the context of Bayesian data analysis, allowing the concepts of inverse theory to be applied to a broad range of problems in the Earth sciences that involve making inferences / drawing conclusions based on observed data. The course culminates in a term paper involving the development and application of a Bayesian inversion for analyzing seismic, gravity, geochemical, and other data.

Taught in: Spring 2017

GEOL 789M: Machine Learning in Geoscience

This graduate seminar is designed to introduce graduate students to machine learning and equip them with tools to apply machine learning to a range of problems in the solid Earth geosciences. Theory underlying modern machine learning methods is covered through hands-on exercises / implementations, culminating in a term project applying techniques learned in class to original research.

Taught in: Spring 2020, Spring 2022

GEOL 789G: Advanced Geophysics Seminar

This graduate-level seminar explores advanced topics in geophysics through in-depth reading and discussion of both classic and contemporary research papers, fostering a deep understanding of foundational concepts and emerging discoveries. Students will engage with a range of subjects spanning seismology, potential fields methods, and Earth structure while critically evaluating scientific developments across time. In addition to discussions, participants will engage in hands-on exercises—such as forward modeling and seismogram readings—to connect theory with practical applications in modern geophysical research.

Taught in: Spring 2026

Co-Instructor, *Solid Earth Geophysics*

Taught introduction to geophysics to advanced undergraduates and beginning graduate students with Prof. D.W. Forsyth, Dept. of Geological Sciences, Brown University.

Taught in 2010, 2011.

III.B Teaching Innovations

III.B.3 Software, Applications, Online Education, etc.

- 2014-2018 Developed MATLAB-based computational seismic tomography tutorials for the NSF-funded CIDER Summer Program at the Kavli Institute for Theoretical Physics. Graduate students from the United States and abroad were taught, in a hands-on fashion, about the resolving power and limitations of global seismic tomography.
- 2016 Consulted as a subject matter expert in the creation of educational material for the middle school curriculum with the Planet3 platform (<http://exploreplanet3.com>), which combines immersive media and state-of-the-art game design with a visionary teaching approach.

III.B.6 Course or Curriculum Development

- 2012 Designed, developed and taught a new course *Observational Geophysics* in the Department of Geology, which is eligible for meeting the geophysics requirement for majors and geophysics minors. The course incorporates 12 in-class, hands-on, MATLAB practicals in which students apply the concepts taught during lectures to actual geophysical datasets.
- 2013-14 Developing curriculum for GEOL 457/657 – Seismology / Seismic Wave Propagation (offered Spring 2013, 2014), which course aims to introduce advanced undergraduate and beginning graduate students to the study of elasticity, seismic wave propagation, imaging used in seismic exploration, and the characterization of earthquakes.
- 2014-15 Designed, developed, and taught a new course Inverse Problem Theory in the Department of Geology, which aims to give graduate students the theoretical background for and practical application of Bayesian inference and model selection using geodetic, seismological, and geochemical data. The course is framed in the context of Bayesian data analysis, allowing the concepts of inverse theory to be applied to a broad range of problems in the Earth sciences that involve making inferences / drawing conclusions based on observed data. The course culminates in a

term paper involving the development and application of a Bayesian inversion for analyzing seismic, gravity, geochemical, and other data.

2015-16

Co-developed (with John Merck and Dan Lathrop) a new Geophysics track of the undergraduate Geology major. The geophysics curriculum is designed to meet the requirements of industry, graduate school, and government. For the B.S. degree, the students are required to complete introductory geology and physics requirements (39 credits) and upper-level requirements including Depth options, Context options, and Breadth options (30 - 35 credits) in addition to the General Education Program requirements and the completion of at least 120 credits in total. In order to receive a degree in Geophysics, the department requires that students must have a grade of C- or better in the required geology courses, and an average of C- or better in the supporting courses.

This new major track will enable students primarily interested in the application of the methods of physics to geosciences issues to take advantage of Geology's growing corps of faculty specialists in geophysics, research expertise, and range of course offerings in this area in order to gain access to the best careers and most prestigious graduate programs in this field. The proposed track recognizes that the professional requirements for entry into such careers and graduate programs are distinct from those of general geosciences. It is intended, therefore, to encourage rigorous preparation in mathematics and physics that the standard geology professional track does not require, while eliminating onerous geology requirements that are not required for advancement in geophysics.

First students enrolled in the major during the 2016-2017 Academic Year.

<https://www.geol.umd.edu/undergraduate/ugdgeophysmajor.php>

2020

Developed a graduate seminar aimed at introducing graduate students to machine learning and equipping them with tools to apply machine learning techniques to a range of problems in the solid Earth geosciences. We will review the theory behind ML with a focus on recent progress, discuss applications of ML in the geoscience literature, and implement ML techniques including convolutional neural networks (CNN) and dimensionality reduction (TSNE, UMAP, etc.) to analyze datasets from geology, geophysics, geodesy, and geochemistry.

2026

Developed a graduate seminar aimed at exploring advanced topics in geophysics through in-depth reading and discussion of both classic and contemporary research papers, fostering a deep understanding of foundational concepts and emerging discoveries. Students engage with a range of subjects spanning modern structural seismology and the structure of planetary interiors, while critically evaluating scientific developments across time. The course is divided into modules on global seismogram reading, phase identification, 1D Earth structure; generalized ray theory, reflection-transmission coefficients, seismogram interpretation; crustal structure, waveform forward modeling through reflectivity / f-k integration; numerical modeling through 2D finite difference and spectral element method simulations.

III.C. Advising: Research

III.C.1 Undergraduate

Senior thesis students (GEOL 393/394):

1. Alan Cinsavich (2013) – “Intraplate seismicity of the Gorda Plate”
2. Rishi Sugla (2013) – “Orbital and Structural Evolution of Triton” (co-advised with Drs. Heir-Majumder and Hamilton)
3. Adele Lu (2014) – “Removing air-pressure noise from broadband seismic data: application to Antarctica as an analog for the *NASA Insight* Mars Lander”
4. Sutton Chiorini (2016) – “Swarm-like seismicity in Northern California”
5. Jeffrey Adams (2017) – “Strike-slip faulting on Europa”
6. Dakota Sparks (2017) Quantifying Differences in Turbulence Between Alluvial and Bedrock Streams Using Analyses of Seismic Noise (co-advised with Dr. Prestegard)
7. Peter Meehan (2018) – “Origin of the Cheverly Booms”
8. Yuval Ravinsky-Gray (2024) – “The Faults in Our State: An investigation of earthquakes in Maryland”
9. Donovan Cunion (2025) – “Investigating the Intrinsic Attenuation of Large Low-Velocity Provinces”

Physics research experience students (PHYS 299B):

1. Orlando M. Romeo – Analysis of frequency-dependence of P wave traveltime measurements
2. Timothy (Joey) Taylor – Inferring position, size, and shape of subsurface density anomalies from surface gravity observations

Research advisor to (* denotes participants in SeismoABCs):

1. Nicholas Anuforoh, Spring 2013
2. Rannie Ayoub, Spring 2014
3. Benjamin Belzer, Spring 2014
4. Sutton Chiorini*, Fall 2013 – Spring 2017. Sutton presented the research on earthquake swarms that she has carried out in my lab at the 2016 Fall Meeting of the American Geophysical Union. She went on to attend a Master’s program in geophysics at Miami University of Ohio (as a student of Mike Brudzinski), having also been admitted to Lehigh University.
5. Erin Cunningham – Incorporated Research Institutions for Seismology summer 2012 intern from Tulane University. Now, Ph.D. student at the University of Maryland, College Park
6. Jeffrey Gay – Montana State University summer 2012 and 2013 intern. Jeff is currently a M.S. student at the University of Utah.

7. Jonathan Guandique – Incorporated Research Institutions for Seismology summer 2015 intern from Fort Valley State University. He is now an undergraduate student at Penn State University and will be starting our Master's program in Fall 2017.
8. Alex J. Kandell, Spring 2012 – Spring 2013: After graduating from the University of Maryland, College Park, Alex enrolled in a Master's program in seismology at Rice University.
9. Jesse M. Kolb, Spring 2012 – Summer 2013: After graduating from the University of Maryland, College Park, Jesse completed a Master's degree in exploration seismology at the University of Calgary (CREWES), and is currently a software developer at Uber Technologies, Inc.
10. Brendan Lockhart, Fall 2012 – Spring 2014
11. Anthony Mautino, Spring 2014 – Summer 2014: After graduating from the University of Maryland, College Park, Anthony completed a Master's degree in Geology at the University of Maryland, College Park. He was offered), who has been offered a technical software development position at NASA Goddard.
12. Michael Ream, Spring 2012, Fall 2013 – Spring 2014: After graduating from the University of Maryland, College Park, Mike is now a Ph.D. student at Portland State University.
13. Julie Schnerr*, Spring 2015 – Fall 2015: After graduating from the University of Maryland, College Park, Julie is now a Ph.D. student at the University of Hawaii, Manoa.
14. Liam Shaughnessy*, Spring 2016 – Fall 2016: After gaining experience in seismological research in my lab, Liam pursued other applications of seismology, and is currently working on implementing acoustic mode velocimetry (technique developed as part of a collaboration with Prof. Lathrop and colleagues at Grenoble to image flow within rotating spherical containers) in water as part of an on-going collaboration with Prof. Lathrop.
15. Kendall Price – Summer 2016 high school intern from the Montgomery Blair High School.
16. Andrew Will, Fall 2012 – Spring 2013
17. Brittany Washington, Summer 2017: Incorporated Research Institutions for Seismology summer intern from University of New Jersey at Newark. Brittany is studying seismic signals from a high frequency ocean bottom array in Bransfield Strait, Antarctica, and is co-mentored by Prof. Schmerr.
18. Anant Hariharan, Summer 2017: Incorporated Research Institutions for Seismology summer intern from Cornell University. Anant is applying spherical wavelet analysis to multi-scale tomographic model comparison with the goal of identifying lengthscale(s) at which structures imaged by high-frequency travel-time P-wave tomography (which has variable resolution) are compatible with global long period S-wave tomography. He is co-mentored by Dr. Moulik, who is a postdoctoral researcher in my lab. He has been admitted to 6 Ph.D. programs, including the University of Maryland, where he was awarded a Flagship Fellowship. He has also received an NSF Graduate Research Fellowship.

19. Logan Edwards, Summer-Fall 2018: SeismoABCs intern working on detecting anomalous structures in the core-mantle boundary region through the analysis of core-diffracted waves.

III.C.2 Master's

Primary research advisor to Mr. Zachary Reeves (graduated 2014), who is now employed by the United States Geological Survey National Earthquake Information Center.

Primary research advisor to Mr. Anthony Mautino (graduated 2016), who was offered a technical software development positions at NASA Goddard and is currently working at NIST

Research co-advisor to Mr. Phillip Goodling (graduated 2018), who is now a staff scientist at the United States Geological Survey (USGS).

Master's Committees

Zachary Reeves	(M.S.) Qualifying Exam 2013	Thesis Defense 2014
Anthony Mautino	(M.S.) Qualifying Exam 2016	Thesis Defense 2016
Phillip Goodling	(M.S.) Qualifying Exam 2018	Thesis Defense 2018

III.C.3 Doctoral

Primary research advisor to Ms. Erin Cunningham (Ph.D. 2019), Mr. Chao Gao (Ph.D. 2019), and Ms. Karen Pearson (Ph.D. 2021), and co-advisor to Ms. Kristel Izquierdo (Ph.D. 2021), Ms. Heidi Myers (Ph.D. anticipated 2024), Ms. Ashley Hanna (Ph.D. anticipated 2027), Mr. Benjamin Moyer (Ph.D. anticipated 2027).

PhD Committees

Chao Gao	(Ph.D.) Qualifying Exam 2016	Thesis Defense 2019
Erin Cunningham	(Ph.D.) Qualifying Exam 2016	Thesis Defense 2019
Kristel Izquierdo	(Ph.D.) Qualifying Exam 2018	Thesis Defense 2020
Karen Pearson	(Ph.D.) Qualifying Exam 2018	Thesis Defense 2021
Heidi Myers	(Ph.D.) Qualifying Exam 2021	Thesis Defense 2024
Ashley Hanna	(Ph.D.) Qualifying Exam 2024	
Benjamin Moyer	(Ph.D.) Qualifying Exam 2026	

III.C.4 Post-Doctoral

Former postdocs, primary advisor:

- Ziqi Zhang (Oct. 2024 – present), soon to be postdoctoral fellow at Australian National University
- Doyeon Kim (Nov. 2018 – 2021), now a Lecturer at Imperial College London.
- Raj Moulik (Oct. 2015 - 2021), now a postdoctoral researcher at Columbia University.
- Tolulope Olugboji (Oct. 2014 - 2018), now an Asst. Prof. at the University of Rochester.
- Scott Burdick (Sept. 2014 - 2017), now an Asst. Prof. at Wayne State University.

Former postdocs, secondary advisor:

- Jingchuan Wang (2018 – 2021), now a Postdoc at Caltech.

- Ross Maguire (Oct. 2015 - 2021), now an Asst. Prof. at the University of Illinois, Urbana-Champaign.

III.E Advising: Other than Research Direction

III.E.2 Master's

Member of Master's Committees

- | | | |
|----|------------------|----------------------------|
| 1. | Anna Statkiewicz | (M.S.) Thesis Defense 2014 |
| 2. | William Kibikas | (M.S.) Thesis Defense 2017 |
| 3. | Meng Guo | (M.S.) Thesis Defense 2018 |
| 4. | Rebecca Butcher | (M.S.) Thesis Defense 2019 |
| 5. | Kathryn Robbins | (M.S.) Thesis Defense 2022 |
| 6. | Linden Wike | (M.S.) Thesis Defense 2024 |
| 7. | Jacob Giles | (M.S.) Thesis Defense 2025 |

III.E.3 Doctoral

Member of Doctoral Committees

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|-----|----------------------------|---|
| 1. | Lisa Schleicher | (Ph.D.) Dissertation Defense 2013 |
| 2. | Kevin J. Miller | (Ph.D.) Dissertation Defense 2015 |
| 3. | Stephanie Johnston | (Ph.D.) Dissertation Defense 2015 |
| 4. | Harrison Lisabeth | (Ph.D.) Dissertation Defense 2016 |
| 5. | Matthew Adams | (Ph.D.) Dissertation Defense 2016 |
| 6. | Hailong Bai | (Ph.D.) Dissertation Defense 2017 |
| 7. | Tanja Pejic | (Ph.D.) External Examiner, Australian National Univ. 2017 |
| 8. | James Dottin | (Ph.D.) Dissertation Defense 2020 |
| 9. | Angela Marusiak | (Ph.D.) Dissertation Defense 2020 |
| 10. | Quancheng Huang | (Ph.D.) Dissertation Defense 2020 |
| 11. | Ernest R. Bell, Jr. | (Ph.D.) Dissertation Defense 2021 |
| 12. | Fabrizio Magrini | (Ph.D.) External Examiner, Univ. Roma Tre 2021 |
| 13. | Joseph Galella | (Ph.D.) Dissertation Defense 2023 |
| 14. | Lori Willhite | (Ph.D.) Dissertation Defense 2024 |
| 15. | Karla Nunez | (Ph.D.) Dissertation Defense 2025 |
| 16. | Zachary Zega | (Ph.D.) Dissertation Defense 2025 |
| 17. | Henrique Berger Roisenberg | (Ph.D.) External Examiner, Univ. Roma Tre 2026 |
| 18. | Aisha Khatib | (Ph.D.) Dissertation Defense 2026 |

Dean's Representative

- | | | |
|----|--------------------------|---|
| 1. | Jonathan DeJesus Segarra | (Ph.D.) Dissertation Defense 2021 |
| 2. | Heidi B. Komkov | (Ph.D.) Dissertation Defense 2021 |
| 3. | Sarah C. Burnett | (Ph.D.) Dissertation Defense 2021 |
| 4. | Artur Prevalov | (Ph.D.) Dissertation Defense 2023 |
| 5. | Constantinos Frantzis | (Ph.D.) Dissertation Defense 2026 (scheduled) |

IV. SERVICE

IV.A. Editorships, Editorial Boards, and Reviewing Activities (since 2012)

IV.A.1 Editorships

Associate Editor for *Journal of Geophysical Research – Solid Earth* (2019-2021)
Guest editor for *Tectonics* special issue on the continental crust (2017)

IV.A.2 Editorial Boards

Eos (American Geophysical Union) Science Adviser (2021-2025)

IV.A.3 Reviewing Activities for Journals and Presses

Science, *Nature Geoscience*, *Nature Communications*, *Geophysical Journal International*, *Geophysical Research Letters*, *Physics of Earth and Planetary Interiors*, *Journal of Geophysical Research*, *Geochemistry*, *Geophysics*, *Geosystems*, *Earth and Planetary Science Letters*, *Eos*, *Precambrian Research*, *Seismological Research Letters*, *Journal of Seismology*, *Bulletin of the Seismological Society of America*, *Water Resources Research*.

IV.A.4 Reviewing Activities for Agencies and Foundations

National Science Foundation, Division of Earth Sciences (EAR): Geophysics Program, EarthScope Program, Education and Human Resources Program, Geoinformatics Program, Integrative Activities in Physics Program

National Science Foundation, Division of Earth Sciences (EAR), Geophysics Program Review Panel Member, Spring 2015.

National Science Foundation, Division of Ocean Sciences (OCE): Marine Geology and Geophysics Program.

National Science Foundation, Faculty Early Career Development Program (CAREER).

Swiss National Science Foundation, Division of Mathematics, Physical and Engineering Sciences.

European Research Council, Starting Grant program

Academia Sinica (Taiwan), Career Development Award

Natural Sciences and Engineering Research Council of Canada

Deutsche Forschungsgemeinschaft (German Research Foundation)

IV.B. Committees, Professional & Campus Service (since 2012)

IV.B.1 Campus Service – Department

Director of Graduate Studies (2023-present)

Graduate Admissions and Awards Committee (2020-present)

Search Committee for Assistant Professor in Geophysics (2015-2016)

Departmental Colloquium Sole Organizer (Fall 2014, Spring 2015, Fall 2015, Spring 2016)

Faculty Merit Review Committee (2013, 2014, 2015)
 Geology Curriculum Review Committee (2015)
 Search Committee for Department Chair (2015)
 Search Committee for Assistant Professor in Geophysics (2013-2014)
 Ad Hoc Award Committee (2012-2014)
 Graduate Admissions Committee (2012-2013)

IV.B.2 Campus Service – College

Member Representative of the University of Maryland, College Park to the Incorporated Research Institutions for Seismology Consortium (2012 – present)
 Task Force on Earth Sciences Committee (2019-2020)

IV.B.3 Campus Service – University

- Member of Review Panel for Packard Foundation Fellowships for Science and Engineering (2015-present) which evaluates proposals in the internal competition for selection as a University nominee to the Packard Foundation.
- Member of Advisory Board for the Office of Postdoctoral Affairs (2017-2018) – which advises on matters of advocacy and on the development of policies to recommend to the provost and campus, serves as a sounding board for innovative programs and professional development opportunities, brings forward faculty perspectives and concerns regarding current issues confronting post-docs, and identifies networking strategies for post-docs, mentors, and potential employers, both academic and otherwise.
- Senator – University Senate (2021-2023). The University Senate is one of the largest and most influential governing bodies at the University of Maryland. The Senate is composed of faculty, staff, students, and administrators that are peer-elected, volunteer, or appointed. As Senators and Senate Committee members, these constituents directly participate in the shared governance of our University. The primary function of the Senate is to advise the University President on virtually all campus policy matters and concerns, including but not limited to: education, budget, personnel, campus-community, long range plans, facilities, and faculty, staff and student affairs (subject to the limitations imposed by laws or mandates from the University of Maryland System Board of Regents or the Chancellor). www.senate.umd.edu

IV.B.7 Offices and Committee Memberships

2026	Past President, Geological Society of Washington
2025	President, Geological Society of Washington
2023-present	EarthScope Data Products and Services Advisory Committee
2024	1 st Vice President, Geological Society of Washington
2023	2 nd Vice President, Geological Society of Washington
2021-2022	Incorporated Research Institutions of Seismology Standing Committee on the Global Seismic Network.
2020-2021	Member of National Science Foundation EAR Instrumentation Portfolio Review Committee

2018-2021	Chair of the Quality Assurance Advisory Committee of the Incorporated Research Institutions of Seismology
2018-2019	Chair of Seismological Society of America Richter Award subcommittee of the Seismological Society of America
2018	Study of the Earth's Deep Interior (SEDI) Section Program Committee chair for the American Geophysical Union Fall Meeting
2016-2018	Incorporated Research Institutions of Seismology Instrumentation Services Standing Committee
2016-2018	Seismological Society of America Honors Selection Committee: Frank Press Award subcommittee.
2017	Computational Infrastructure for Geodynamics, Nominating Committee
2016-2018	Seismological Society of America Honors Selection Committee: Richter Award subcommittee
2014	Incorporated Research Institutions of Seismology Undergraduate Internship Program Selection Committee
2014-2015	Councilmember at Large, Geological Society of Washington
2014-2015	Membership Committee, Geological Society of Washington
2013-2015	Incorporated Research Institutions of Seismology Standing Committee on the Global Seismic Network.
2013	Seismology Section Program Committee chair for the American Geophysical Union Fall Meeting
2012	Seismology Section Program Committee co-chair for the American Geophysical Union Fall Meeting

IV.F Community and Other Service

Prince George's County Regional Science Fair judge (Spring 2014)

Washington, DC annual Science, Technology, and Engineering Fair special judge for the Geological Society of Washington (Spring 2017)