

MICHAEL J. OLSEN

Professor of Geomatics, Ph.D.

School of Civil and Construction Engineering, Oregon State University

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EDUCATION

Ph.D.	University of California, San Diego	Structural Engineering	2009
M.S.	University of Utah	Civil and Env. Engineering	2005
B.S.	University of Utah	Civil and Env. Engineering	2004

EXPERIENCE

Professor, Geomatics School of Civil and Construction Engineering, Oregon State University	2019 – Present
Associate Professor, Geomatics, School of Civil and Construction Engineering, Oregon State University	2015 – 2019
Joint Appointment, Geomatics, Forest Engineering and Resource Management, College of Forestry, Oregon State University	2016 – Present
Assistant Professor, Geomatics, School of Civil and Construction Engineering, Oregon State University	2009 – 2015
Research Assistant, Structural Engineering, University of California, San Diego	2005 – 2009
Teaching Assistant, Structural Engineering, University of California, San Diego	2006 – 2007
Research Assistant, Civil and Environmental Engineering, University of Utah	2004 – 2005
Engineer in Training, West Valley City, UT	2003 – 2004

AWARDS AND HONORS

- Outstanding University Achievement in Lidar, Geoweek (shared) **2022**
- Martin Isenburg Best Paper Award, 3D GeoInfo (shared) **2021**
- College of Engineering Dean's Professor **2019-2021**
- Pactrans Researcher of the Year **2017**
- Engelbrecht Young Faculty Award, *Oregon State University* **2015**
- National Science Foundation, Faculty Early Career Development **2014-2019**
- EERI\NCEE Early Faculty Travel Grant **2014**
- Inaugural Eric HI and Janice Hoffman Faculty Scholar **2012-2014**
- PEER Delegate and CUEE Early Faculty Travel Grant **2012**
- ASCE ExCEED Teaching Fellowship **2010**
- National Science Foundation CMMI Grantee's Travel Grant **2009**
- Chancellor's Interdisciplinary Collaboratories Student Fellowship, *University of California, San Diego* **2008, 2009**
- Jacob's Fellowship, *University of California, San Diego* **2005-2008**
- Wayne Brown Fellowship, *University of Utah* **2004-2005**
- Magna Cum Laude, *University of Utah* **2004**
- Valedictory Commencement Speech Semi-Finalist, *University of Utah* **2004**

- Presidential Scholarship, *University of Utah* **2001-2004**
- Eagle Scout Award, *Boy Scouts of America* **1992**

PUBLICATIONS

Book Chapters:

1. **Invited.** Olsen, M.J., Jung, J., Che, E. and Parrish, C. (2022). Chapter 9 Mobile terrestrial laser scanning and mapping, *Surveying and Geomatics Engineering: Principles, Technologies, and Applications*, ASCE MOP152, Reston, Va. Editors: Gillins, D., Dennis, M., and Ng, A.
2. **Invited.** Olsen, M.J. (2022). Chapter 8 Terrestrial laser scanning, *ASCE Surveying Engineering Manual. Surveying and Geomatics Engineering: Principles, Technologies, and Applications ASCE MOP152*, Reston Va. Editors: Gillins, D., Dennis, M., and Ng, A.
3. **Invited.** Seracini, M., Kuester, F., De Vita, M., Olsen, M.J., Ponto, K., Kimball, J., Corazzini, S., and Bonini, C. (2010), *Alla riscoperta di Palazzo Medici Riccardi, Campagna di indagini diagnostiche per lo studio e la caratterizzazione dell' evoluziune architettonica del monumento [In English: "Rediscovering Palazzo Medici Riccardi. Diagnostic Investigation to Study and Characterize the Monument's Architectural Evolution"]*, in *Il Palazzo Magnifico, Palazzo Medici Riccardi a Firenze*, Allemandi Publishing, pp. 241-249.
4. **Invited.** Olsen, M.J., Madin, I., Chin, A., and Conner, J. (2012). Natural Hazards Subchapter (10.9), *Manual of Airborne Topographic LIDAR*, ASPRS, Renslow, M., editor, 407-422.
5. **Invited.** Olsen, M.J., Singh, R., Williams, K., and Chin., A. (2012). Transportation Engineering Subchapter (10.3.2), *Manual of Airborne Topographic LIDAR*, ASPRS, Renslow, M., editor, 331-343.

Peer-Reviewed Journal Papers (Technical Papers):

1. Che, E., and Olsen, M.J. (Under Review). Vo-Norvana: A Versatile Framework for Efficient Segmentation of Large Point Cloud Datasets, *ASCE J. Computing Civil Engineering*.
2. Batchelor, J., Wilson, T.M., Ripple, W.J., **Olsen, M.J.**, & Painter, L.E. (2023). "New Structural Complexity Metrics for Forests from Single Terrestrial Lidar Scans," submitted to *Remote Sensing*, 15(1), 145; Special Issue on New Tools or Trends for Large-Scale Mapping and 3D Modelling, <https://doi.org/10.3390/rs15010145>
3. Olsen, M.J., Massey, C., Leshchinsky, B., Wartman, J. and Senogles, A. (2022). Forecasting post-earthquake rockfall activity, *Journal of Applied Geodesy*, Special Issue: Joint Symposium on Deformation Monitoring. <https://doi.org/10.1515/jag-2022-0045>
4. Leshchinsky, B., Alberti, S., Roering, J., Perkins, J, and Olsen, M.J., (2022). Inversions of Landslide Strength as a Proxy for Subsurface Weathering, *Nature Communications*, 13, 6049 <https://doi.org/10.1038/s41467-022-33798-5>
5. Senogles, A., Olsen, M.J., and Leshchinsky, B. (2022). SlideSim: 3D Landslide Displacement Monitoring through a Physics-Based Simulation Approach to Self-Supervised Learning. *Remote Sensing, Special Issue Applications of Remote Sensing in Geological Engineering*, 14(11):2644. <https://doi.org/10.3390/rs14112644>.
6. Alberti, S., Olsen, M.J., Allan, J., and Leshchinsky, B. (2022). Feedback thresholds between coastal retreat and landslide activity, *Engineering Geology*, 301, 106620. <https://doi.org/10.1016/j.enggeo.2022.106620>
7. Massey, C., Olsen, M.J., Wartman, J., Senogles, A., Lukovic, B., Leshchinsky, B., Archibald, G., Litchfield, N., Van Dissen, R., de Vilder, S., and Holden, C. (2022). Rockfall activity rates before,

- during and after the 2010/11 Canterbury Earthquake Sequence, *AGU Journal of Geophysical Research, Earth Surface*. 127, e2021JF006400. DOI: 10.1029/2021JF006400
8. Baselga, S., Olsen, M.J. (2021). Approximations, Errors, and Misconceptions in the Use of Map Projections, *Mathematical Problems in Engineering, Special Issue: Mathematical Problems in Geomatic Spatial Information Technologies*, Vol. 2021 | Article ID 1094602, <https://doi.org/10.1155/2021/1094602>
 9. Che, E.* **Olsen, M.J.**, Jung, J.* (2021). Efficient Segment-based ground filtering and adaptive road detection from mobile lidar data, *International Journal of Remote Sensing*, 42(10), 3633-3659. <https://www.tandfonline.com/doi/full/10.1080/01431161.2020.1871095>
 10. Javadnejad, F., Slocum, R., Gillins, D.T., **Olsen, M.J.**, and Parrish, C.E. (2021). Dense Point Cloud Quality Factor (DPQF) as A Proxy for Accuracy Assessment of Image-based 3D Reconstruction, *Journal of Surveying Engineering*, 147(1), 04020021. [https://doi.org/10.1061/\(ASCE\)SU.1943-5428.0000333](https://doi.org/10.1061/(ASCE)SU.1943-5428.0000333)
 11. Burns, P.O.*, Barbosa, A., **Olsen, M.J.**, & Wang, H. (2021). "Multi-hazard Damage and Loss Assessment of a Highway Bridge Network Subjected to Earthquake and Tsunami Hazards," *Natural Hazards Review*, 22(2). [https://doi.org/10.1061/\(ASCE\)NH.1527-6996.0000429](https://doi.org/10.1061/(ASCE)NH.1527-6996.0000429)
 12. O'Banion, M.S.*, Olsen, M.J., Eddy, M., and Hollenbeck, J. (2020). Data gap classification for terrestrial-laser scanning-derived digital elevation models, *ISPRS International Journal of Remote Sensing*, 9(12), *Special Issue on Advancements in Remote Sensing Derived Point Cloud Processing*, 749, <https://doi.org/10.3390/ijgi9120749>
 13. Berman, J.W., Wartman, J., **Olsen, M.J.**, Irish, J. Miles, S., Tanner, T., Gurley, K.R., Lowes, L., Bostrom, A., Dafni, J., Grilliot, M., Lyda, A., and Peltier, J. (2020). Natural Hazards Reconnaissance with the NHERI RAPID Facility, *Frontiers in Built Environment, Vol. 6, section Wind Engineering and Science, Special Issue on Natural Hazards Engineering Research Infrastructure (NHERI) 2016-2020: Mitigating the Impact of Natural Hazards on Civil Infrastructure and Communities*. doi: 10.3389/fbuil.2020.573067
 14. Wartman, J., Berman, J.W., Bostrom, A., Miles, S., **Olsen, M.J.**, Gurley, K.R., Irish, J. Lowes, L., Tanner, T., Dafni, J., Grilliot, M., Lyda, A., and Peltier, J. (2020). Research Needs, Challenges, and Strategic Approaches for Natural Hazards and Disaster Reconnaissance, *Frontiers in Built Environment, 6:182, section Wind Engineering and Science, Special Issue on Natural Hazards Engineering Research Infrastructure (NHERI) 2016-2020: Mitigating the Impact of Natural Hazards on Civil Infrastructure and Communities*. <https://doi.org/10.3389/fbuil.2020.573068>
 15. Rengers, F.K., Rapstine, T.D., **Olsen, M.J.**, Allstadt, K., Bunn, M.D.*, Iverson, R.M., Kean, J.W., Leshchinsky, B.A., Logan, M., Sharifi-Mood, M*, Obryk, and Smith, J.B., (Accepted with Revisions), Using high sample rate lidar to measure debris-flow velocity and surface geometry, *Environmental and Engineering Geoscience*.
 16. Bunn, M.D.*, Leshchinsky, B.A., **Olsen, M.J.**, (2020) Geologic Trends in Shear Strength Properties Inferred through Three-Dimensional Back-Analysis of Landslide Inventories, *Journal of Geophysical Research – Earth Science*, 125, e2019JF005461. <https://doi.org/10.1029/2019JF005461>
 17. Bunn, M.D., Leshchinsky, B.A., **Olsen, M.J.**, (2020). Estimates of Three-Dimensional Rupture Surface Geometry of Deep-Seated Landslides using Landslide Inventories and High-Resolution Topographic Data, *Geomorphology*, 367, 107332. <https://doi.org/10.1016/j.geomorph.2020.107332>

18. Alberti, S., Senogles, A*, Kingen, K, Booth, A., Castro, P, DeKoekkoek, J., Glover-Cutter, C., Mohney, C., **Olsen, M.J.**, and Leshchinsky, B.A. (2020). The Hooskanaden Landslide: Historic and Recent Surge Behavior of an Active Earthflow on the Oregon Coast. *Landslides*, 17, 2589–2602. <https://doi.org/10.1007/s10346-020-01466-8>
19. Rapstine, T.D., Rengers, F.K., Allstadt, K.E., Iverson, R.M., Smith, J.B., Obryk, M.K., Logan, M., and **Olsen, M.J.** (2020). Reconstructing the velocity and deformation of a rapid landslide using multiview video, *Journal of Geophysical Research - Earth Surface, AGU*, 125(80), . <https://doi.org/10.1029/2019JF005348>
20. Jung, J.*, Che, E.*, **Olsen, M.J.**, and Shafer, K.* (2020). Automated and Efficient Powerline Extraction from Laser Scanning Data using a voxel-based subsampling with hierarchical approach, *ISPRS Journal of Photogrammetry and Remote Sensing*, 163, 343-361. <https://doi.org/10.1016/j.isprsjprs.2020.03.018>
21. Soti, R., Abdulrahmen, L., Barbosa, A., Wood, R., and **Olsen, M.J.** (2020). Case study: Post-earthquake model updating of a heritage pagoda masonry temple using AEM and FEM, *Engineering Structures* 206, 109950. <https://doi.org/10.1016/j.engstruct.2019.109950>
22. Rauthause, M.P., Stuedlein, A.W., and **Olsen, M.J.** (2020). “Quantification of Surface Roughness using Laser Scanning with Application to the Frictional Resistance of Sand-Timber Pile Interfaces.” *Geotechnical Testing Journal*, ASTM International, 43(4), 966-984. <https://doi.org/10.1520/GTJ20180384>
23. Sharifi-Mood, M., Gillins, D.T., **Olsen, M.J.**, Franke, K.W., and Bartlett, S.F. (2020). A Geotechnical Database for Utah (GeoDU) enabling quantification of geotechnical properties of surficial geologic units for geohazard assessments. *Spectra*, 36(1), 422-451. <https://doi.org/10.1177/8755293019878197>
24. Massey, C., Townsend, D. Jonse, K., Lukovic, B., David, R., Rosser, B., Ries, W., Howarth, J., Hamling, I., Petley, D. Clark, M., Wartman, J., Litchfield, N., and **Olsen, M.J.** (2020). Volume characteristics of landslides triggered by the MW7.8 2016 Kaikōura Earthquake, New Zealand, derived from digital surface difference modelling, *Journal of Geophysical Research – Earth Surface*, 125(7) <http://dx.doi.org/10.1029/2019JF005163>.
25. Che, E.*, **Olsen, M.J.**, Parrish, C.E., and Jung, J.* (2019). “Pavement Marking Retroreflectivity Estimation and Evaluation using Mobile Lidar Data.” *Photogrammetric Engineering and Remote Sensing*, 85(8), 573-583. ASPRS. <https://doi.org/10.14358/PERS.85.8.573>
26. Che, E.*, and **Olsen, M.J.** (2019). An Efficient Framework for Mobile Lidar Trajectory Reconstruction and Mo-Norvana Segmentation. *Remote Sensing*, 11(7), 836. <https://doi.org/10.3390/rs11070836>
27. Barlow, Z., Sova, A., Hurwitz, D.S., and **Olsen, M.J.** (2019). Unsafe Driver Glances at Roadside Unmanned Aerial Systems (UAS) Operations. *Institution of Transportation Engineering (ITE) Journal*, 89(6), 38-42.
28. Babbel, B.J.*, **Olsen, M.J.**, Che, E.*, Leshchinsky, B.A., Simpson, C., and Dafni, J. (2019). Evaluation of Uncrewed Aircraft Systems’ Lidar Data Quality, *ISPRS International Journal of Geo-information*, 8(12), 532. Special Issue on Geospatial Monitoring with Hyperspatial Point Clouds. <https://doi.org/10.3390/ijgi8120532>
29. Mathews, N., Leshchinsky, B.A., **Olsen, M.J.**, and Klar, A. (2019). Spatial distribution of yield accelerations for permanent displacements: A diagnostic tool for assessing seismic slope stability,” *Soil Dynamics and Earthquake Engineering*, 126, Nov. 2019, 105811. <https://doi.org/10.1016/j.soildyn.2019.105811>

30. Bunn, M.*, Leshchinsky, B., **Olsen, M.J.**, and Booth, A. (2019). A Simplified, Object-Based Framework for Efficient Landslide Inventorizing Using Lidar Digital Elevation Model Derivatives. *Remote Sensing*, 11(3), 303. Special issue on Landslide Hazard and Risk Assessment. <https://doi.org/10.3390/rs11030303>
31. Barlow, Z., Jashami, H., Sova, A., Hurwitz, D.S., and **Olsen, M.J.** (2019). "Policy Processes and recommendations for Unmanned Aerial System Operations near roadways based on visual attention of drivers," *Transportation Research Part C: Emerging Technologies*, 108, 207-222. <https://doi.org/10.1016/j.trc.2019.09.012>
32. Jung, J.*, Che, E.* **Olsen, M.J.**, and Parrish, C. (2019). Efficient and Robust Lane Marking Extraction from Mobile Lidar Point Clouds. *ISPRS Journal of Photogrammetry and Remote Sensing*, 147, 1-18. <https://doi.org/10.1016/j.isprsjprs.2018.11.012>
33. Leshchinsky, B., **Olsen, M.J.**, Mohney, C. O'Banion, M.S.*, Bunn, M.*, Allan, J., and McClung, R. (2019). "A Framework for Quantifying Progressive Landslide Movement Stemming from Undercutting Processes and Hydrological Changes," *Journal of Geophysical Research-Earth Surface*, 124(2), 616-638. AGU. <https://doi.org/10.1029/2018JF004833>
34. Stockton, E.*, Leshchinsky, B., **Olsen, M.J.**, & Evans, M. (2019). "Influence of both anisotropic friction and cohesion on the formation of tension cracks and the stability of slopes," *Engineering Geology*, 249, 31-44. <https://doi.org/10.1016/j.enggeo.2018.12.016>
35. O'Banion, M.S.*, **Olsen, M.J.**, Parrish, C.E., and Bailey, M. (2019). "Interactive Visualization of 3D Coordinate Uncertainties in Terrestrial Laser Scanning Point Clouds Using OpenGL Shader Language," *Journal of Surveying Engineering*, 145(1). [https://doi.org/10.1061/\(ASCE\)SU.1943-5428.0000267](https://doi.org/10.1061/(ASCE)SU.1943-5428.0000267)
36. Stockton, E.*, Leshchinsky, B., Xie, Y., **Olsen, M.J.**, & Leshchinsky, D. (2018). "Limit Equilibrium Stability Analysis of Layered Slopes: A Generalized approach," *Transportation Infrastructure Geotechnology*, 5(4), 366-378. DOI: 10.1007/s40515-018-0065-y
37. Leshchinsky, B.A., Mason, H.B., **Olsen, M.J.**, and Gillins, D.T. (2018). "Lateral Spreading within a Limit Equilibrium Framework: Newmark Sliding Blocks with Degrading Yield Accelerations," *Geotechnique*. 68(8),699-712. <https://doi.org/10.1680/jgeot.16.P.292>
38. Cubrinovsky, M., Bray, J., de la Torre, C., **Olsen, M.J.**, Bradley, B., Chiaro, G., Stocks, E., Wotherspoon, L, and Krall, T. (2018). Liquefaction-induced damage and CPT characterization of the reclamations at CentrePort, Wellington. Submitted to the *Bulletin of the Seismological Society of America*, BSSA Special Issue on the 2016 Kaikoura Earthquake, Landslides, and Tsunami. DOI: <https://doi.org/10.1785/0120170246>
39. Che, E.*, and **Olsen, M.J.** (2018). "Multi-scan Segmentation of Terrestrial Laser Scanning data based on Normal Variation Analysis." *ISPRS Journal of Photogrammetry and Remote Sensing*, 143, 233-248. Point Cloud Processing Theme Issue. <https://doi.org/10.1016/j.isprsjprs.2018.01.019>
40. Sharifi-Mood, M.*, Gillins, D.T., Franke, K. Harper, J., Bartlett, S.F., and **Olsen, M.J.** (2018). "Probabilistic Liquefaction-Induced Lateral Spread Hazard Mapping and its Application to Utah County, Utah", *Engineering Geology* (237), 76-91.
41. O'Banion, M.S.*, **Olsen, M.J.**, Rault, C., Wartman, J., and Cunningham, K. (2018). "Suitability of Structure from Motion for Rock Slope Assessment," *Photogrammetric Record*, 33(162), 217-242, <https://onlinelibrary.wiley.com/doi/full/10.1111/phor.12241>

42. Jung, J.* **Olsen, M.J.**, Hurwitz, D.S., Kashani, A.G.*, and Buker, K. (2018). "3D Virtual Intersection Sight Distance Analysis Using Lidar Data," *Transportation Research Part C*, 86,563-579. <https://doi.org/10.1016/j.trc.2017.12.004>
43. Allahyari, M.*, Olsen, M.J., Gillins, D.T., Dennis, M. (2018). "Accuracy Evaluation of Real-time GNSS Survey Observations," *Journal of Surveying Engineering*, 144(2). [https://doi.org/10.1061/\(ASCE\)SU.1943-5428.0000249](https://doi.org/10.1061/(ASCE)SU.1943-5428.0000249)
44. Wood, R., Mohammadi, M., Barbosa, A., Soti, R., Kawan, C., Shakya, M., and **Olsen, M.J.**, (2017). Damage Assessment and Modeling of the Five-Tiered Pagoda Style Nyatapola Temple, *Earthquake Spectra*, 33(S1), S377-387. Special Issue on the 2015 Ghorka Nepal Earthquake. <https://doi.org/10.1193/121516EQS235M>
45. Barbosa, A.R., Fahnestock, L.A., Fick, D.R., Gautam, D., Soti, R., Wood, R.L., Moaveni, B., Stavridis, A., and **Olsen, M.J.** (2017). 2015 Ghorka, Nepal Earthquake – Performance of Medium to High Rise Reinforced Concrete Frame Buildings with Masonry Infill. *Earthquake Spectra*, 33(S1), S197-218. Special Issue on the 2015 Ghorka Nepal Earthquake. <https://doi.org/10.1193/051017EQS087M>
46. Brando, G., Rapone, D., Spacone, E., O'Banion, M.S.*, **Olsen, M.J.**, Barbosa, A. Fagella, M. Gigliotti, R., Liberatore, D., Russo, S., Sorrentino, L., Bose, S., and Stavridis, A. (2017). "Damage Reconnaissance of Unreinforced Masonry Bearing Wall Buildings after the 2015 Gorkha, Nepal, Earthquake. *Earthquake Spectra*," *Earthquake Spectra*, 33(S1), S243-273. Special Issue on the 2015 Ghorka Nepal Earthquake. <https://doi.org/10.1193/010817EQS009M>
47. Sharifi-Mood, M.*, **Olsen, M.J.**, Gillins, D.T., Mahalingam, R.* (2017). "Performance-Based, Seismically-induced Landslide Hazard Mapping of West Oregon." *Soil Dynamics and Earthquake Engineering*, 103C(2017), 38-54. DOI: 10.1016/j.soildyn.2017.09.012.
48. Grant, A., Wartman, J., Massey, C.I., **Olsen, M.J.**, O'Banion, M.S.*, and Motley, M. (2017). The impact of rockfalls on dwellings during the 2011 Christchurch, New Zealand earthquakes," *Landslides*. <http://rdcu.be/ubcH>
49. Cubrinovski, M., Bray, J.D., de la Torre, C., **Olsen, M.J.**, Bradley, B.A., Chiaro, G., Stocks, E., Wotherspoon, L. (2017). "Liquefaction effects and associated damages observed at the Wellington CentrePort from the 2016 Kaikoura Earthquake," *Bulletin of the New Zealand Society for Earthquake Engineering*, 2016 Kaikoura Earthquake Special Issue, 152-173.
50. Che, E.* and **Olsen, M.J.**, (2017). "Fast Ground Filtering for TLS data via ScanLine Density Analysis," *ISPRS Journal of Photogrammetry and Remote Sensing*, 129, 226-240, <http://dx.doi.org/10.1016/j.isprsjprs.2017.05.006>.
51. Dunham, L., Wartman, J., **Olsen, M.J.**, O'Banion, M.S.*, & Cunningham, K. (2017). "Rockfall Activity Index (RAI): A Lidar-derived, morphology-based hazard assessment system," *Engineering Geology*, 221, 184-192. <https://doi.org/10.1016/j.enggeo.2017.03.009>
52. Hess, D., Leshchinsky, B.A., Bunn, M.*, Mason, H.B., and **Olsen, M.J.** (2017). Simplified Three-Dimensional Shallow Landslide Susceptibility Framework Considering Topography and Seismicity, *Landslides*.
53. Gaidzik, K., Ramirez-Herrera, M.T., Bunn, M.*, Leshchinsky, B.A., **Olsen, M.J.**, and Regmi, N.A., (2017). "Comparing landslide susceptibility mapping based on LIDAR DTMs using manual and automated inventories in tropical mountains of Guerrero, Mexico." *Geomatics, Natural Hazards and Risk*, 8(2), 1054-1079. <http://dx.doi.org/10.1080/19475705.2017.1292560>

54. Mahmoudabadi, H.*, **Olsen, M.J.**, & Todorovic, S., (2017). "Detecting sudden moving objects in a series of digital images with different exposure times." *Computer Vision and Image Understanding*, 158, 17-30. <http://dx.doi.org/10.1016/j.cviu.2017.01.004>
55. Gillins, D.T., **Olsen, M.J.**, & Schultz, R.J. (2017). "The Current State of Surveying Education within Civil Engineering Programs in the United States," *Surveying and Land Information Sciences*, 76(1), 5-15.
56. Nolan, J., Eckels, R., **Olsen, M.J.**, Yen, K.S., Lasky, T.A., and Ravani, B. (2017). "Analysis of the multi-pass approach for collection and processing of mobile laser scan data," *Journal of Surveying Engineering*, 143(3): 04017004. Special Issue on Mobile Mapping Technology. [http://dx.doi.org/10.1061/\(ASCE\)SU.1943-5428.0000224](http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000224)
57. Johnstone, E., Raymond, J., **Olsen, M.J.**, & Driscoll, N. (2016). "Morphological Expressions of Coastal Cliff Erosion Processes in San Diego County." In: Brock, J.C.; Gesch, D.B.; Parrish, C.E.; Rogers, J.N., and Wright, C.W. (eds.), *Advances in Topobathymetric Mapping, Models, and Applications. Journal of Coastal Research*, Special Issue, No. 76, pp. 174–184. Coconut Creek (Florida), ISSN 0749-0208. <http://www.jcronline.org/doi/pdf/10.2112/SI76-015>
58. **Olsen, M.J.**, Johnstone, E., Driscoll, N., Kuester, F., and Ashford, S.A., (2016). "Fate and transport of seacliff failure sediment in southern California." In: Brock, J.C.; Gesch, D.B.; Parrish, C.E.; Rogers, J.N., and Wright, C.W. (eds.), *Advances in Topobathymetric Mapping, Models, and Applications. Journal of Coastal Research*, Special Issue, No. 76, pp. 185–199. Coconut Creek (Florida), ISSN 0749-0208. <http://www.jcronline.org/doi/pdf/10.2112/SI76-016>
59. Mahmoudabadi, H.*, **Olsen, M.J.**, & Todorovic, S., (2016). "Efficient point cloud segmentation utilizing computer vision algorithms." *Journal of Photogrammetry and Remote Sensing*, 119C, 135-150, doi: 10.1016/j.isprsjprs.2016.05.015
60. Mahalingam, R.*, **Olsen, M.J.**, & O'Banion, M.S. (2016). "Evaluation of landslide susceptibility mapping techniques using lidar-based conditioning factors (Oregon case study)," *Geomatics, Natural Hazards and Risk*. DOI:10.1080/19475705.2016.1172520
61. Neill, J.M., Hurwitz, D.S., and **Olsen, M.J.** (2016). "Alternative Information Signs: An Evaluation of Driver Comprehension and Visual Attention", *Journal of Transportation Engineering*, 142(1), ASCE. [10.1061/\(ASCE\)TE.1943-5436.0000807](http://dx.doi.org/10.1061/(ASCE)TE.1943-5436.0000807) , 04015036.
62. **Olsen, M.J.**, Wartman, J., McAlister, M.*, Mahmoudabadhi, H.*, O'Banion, M.S.*, Dunham, L., and Cunningham, K., (2015). "To fill or not to fill: Sensitivity analysis of the influence of resolution and hole filling on point cloud surface modeling and individual rockfall event detection." *Remote Sensing*, Special Issue- Use of lidar and 3D point clouds in geohazards, 79(9),12103-12134. doi:10.3390/rs70912103
63. Mahalingam, R.*, & **Olsen, M.J.** (2015). "Evaluation of the influence of source and spatial resolution of DEMs on derivative products used in landslide mapping," *Geomatics, Natural Hazards and Risk*. DOI: 10.1080/19475705.2015.1115431
64. Leshchinsky, B., **Olsen, M.J.**, & Tanyu, B. (2015). "Contour Connection Method for Automated Identification and Classification of Landslide Deposits," *Computers and Geosciences*, 74, 27-38. <http://dx.doi.org/10.1016/j.cageo.2014.10.007>
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http://www.geerassociation.org/GEER_Post%20EQ%20Reports/American%20Samoa_2009/AmSamoa09_index.html
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Published Maps:

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Industry Publications (Magazine Articles)

1. Roe, G.V., **Olsen, M.J.**, Barbosa, A., and Veletzos, M. (2019). Workshops for Assessing, Coding, and Marking of Highway Structures in Emergency Situations, TR News 324, 28-32.
2. **Olsen, M.J.**, (2015). "ISPRS Geospatial Week Recap," Lidar News. <http://lidarnews.com/articles/isprs-geospatial-week-recap/>
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4. Roe, G.V., **Olsen, M.J.**, & Raugust, J.D., (2014). "Adopting Geospatial Technologies: Key to Digital 3-D Revolution in Transportation," Transportation Research News 295, November-December 2014, 31-33. Article and Magazine Cover Image.

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Industry Publications (Short newsletter articles)

1. **Che, E*., and Olsen, M.J.** (2019). Lidar Point Cloud Segmentation: A novel framework for processing terrestrial lidar data. GIM International (10/15/2019). <https://www.gim-international.com/content/article/lidar-point-cloud-segmentation>
2. **Olsen, M.J.** (2015). "ISPRS Geospatial Week Recap," Lidar News Today, posted online October 6, 2015.
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11. **Olsen, M.J.** (2012). "Picking the Right Point," Lidar news Special Bulletin, <http://lidarnews.com>, posted online: Jan. 11, 2012.
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16. **Olsen, M.J.,** (2011). Bin 'N' Grid: A simple program for statistical filtering of point cloud data, Lidar news 1(10), <http://lidarnews.com>, posted online: May 29, 2011.
17. **Olsen, M.J.,** (2011). Laser Scanning Book Review, Lidar news 1(8), Spotlight Article, <http://lidarnews.com>, posted online: April 28, 2011.
18. **Olsen, M.J., & Fotopolous, G.** (2011) Engaging Youth at SPAR 2011, Lidar news 1(6), <http://lidarnews.com>, posted online: March 30, 2011.
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20. **Olsen, M.J.,** (2010). Geomatics and Laser Scanning at Oregon State University, Lidar news, Charter issue, 1(1), <http://lidarnews.com>, posted online: December 15, 2010.

Miscellaneous Publications

1. Johnstone, E.J., Olsen, M.J., & Driscoll, N. (2009), cover image for the 2009 Earth Section Annual Report, Scripps Institution of Oceanography. Parker, R., and Gee, J., editors.

PRESENTATIONS

Conferences and Professional Organizations:

1. Multi-scale Voxelization in 3D Point Cloud Processing, ASCE UESI Surveying and Geomatics Conference, Lawrenceburg, IN (October 2022).
2. Application of the rockfall activity rate system, RoARS, International Society for Rock Mechanics and Rock Engineering, Eurock 2022, Helsinki, Finland (September 2022).
3. *Invited.* Surveying Trends Shaping Education, Oregon State Board of Examiners for Engineering and Land Surveying, OSBEELS, Virtual Meeting, (September 2022).
4. *Invited.* Clone with your phone. Using pocket lidar to support highway construction, AASHTO Committee on Construction Annual Meeting, Bellevue, Washington, August 2022.
5. Race against time: Student Educational Experiences to capture the Historic Blue Heron Paper Mill Site, Surveying and Geomatics Educator's Conference (Sages), Virtual Conference (August 2022).
6. *Invited.* Infrastructure Automation, Professional Engineers of Oregon, Lincoln City, OR (May 2022).
7. Forecasting post-earthquake rockfall activity, 5th Joint International Symposium on Deformation Monitoring, Valencia Spain, (June 2022).

8. *Invited*. Geomatics at OSU, TRB AKD70 UAS Subcommittee Meeting, Washington, DC. (January 2022).
9. *Invited*. Shake, rock, and roll: Analyzing and forecasting post-earthquake rockfall activity from point clouds, GAGE\SAGE Community Science Workshop, (August 2021)
10. *Invited*. Mobile lidar surveying, ASCE 2021 student competition (June 2021).
11. *Invited*. Foreseeable trends in surface survey techniques including InSAR, LiDAR differencing, laser scanning, Engineering value from the monitoring of slopes -current practice and the future, New Zealand Geotechnical Society 2021 Conference, Queenstown New Zealand. (Virtual presenter)
12. *Efficient Point Cloud Segmentation of Transportation Assets for Improving the Workability of Lidar Data*, TRB AKD70, Summer Meeting, Virtual. (August 2020). Co-presented with Dr. Ezra Che.
13. *Forecasting increased rockfall activity following seismic events*, Northwest Transportation Conference, Corvallis, OR (March 2020).
14. *Invited Panelist*, Point the Way Photogrammetry and LiDAR for geo-imaging, ASCE Geo Congress, Minneapolis, MN (February 2020).
15. *Rockfall Impacts on Mobility (RIM) database for the Pacific Northwest*, Pactrans Annual Meeting, Seattle, Washington, (October 2019). Poster Presentation.
16. *Efficient Extraction and Classification of Complex Pavement Markings from Mobile Laser Data*, Pactrans Annual Meeting, Seattle, Washington, (October 2019). Poster Presentation.
17. Rockfall activity rates following the Canterbury New Zealand Earthquake. 7th International Conference on Geotechnical Earthquake Engineering, 7ICEGE, Roma Italy, June 2019. Poster Presentation.
18. Pavement marking reflectivity evaluation through radiometric calibration of the Leica P40 Terrestrial Laser Scanner, ISPRS Geospatial Week, Laser Scanning, Enschede, The Netherlands, (June 2019)
19. *Invited*. Lidar show and tell, ODOT Pavement Marking Seminar, Salem, OR (April 18, 2019). Co-presented with Jon Lazarus, Chris Parrish, Jennifer Lanzarotta, and Dan Wright.
20. *Invited*. *Photo, rock, lasers: Analyzing rockfall activity with lidar and/or photogrammetry*. ODOT Engineering Geology and Geotechnical Engineering Technical Transfer Meeting. Corvallis, OR. July 16-17, 2019.
21. *Will it Stay or Will it Go? Use of Lidar to Assess Slope Instability*. AEG Oregon Chapter Meeting, Portland, OR, December 2018.
22. *Invited*. Post-seismic measurement and investigation based on 3D laser scanning and imaging technology, The 6th International Conference on Anti-seismic Technology for Building Structures and the 10th Anniversary Summit Forum of the Wenchuan Earthquake, Chengdu China (April 20, 2018).
23. *Invited*. The Rocky Road: Proactive Management of Unstable Rock Slopes Near Highways. Pactrans Annual Meeting, Seattle, WA. (October 6, 2017)
24. *Invited Panelist*. For the Box is Black and Full of Terrors: Mastery of Modern Geospatial Technology for Surveying and Engineering Project, ASCE UESI Pipelines Conference, Phoenix, AZ (August 7, 2017)
25. *Invited Panelist*. The ASCE Manual of Practice on Surveying and Geomatics Engineering, ASCE UESI Pipelines Conference, Phoenix, AZ (August 7, 2017)
26. Surveying in the Aftermath of Disaster: NSF NHERI Rapid Experimental Facility and Lessons learned from the 2016 Kaikoura Earthquake, 2017 Surveyors and Geomatics Educators Society (SaGES) Conference, Corvallis, OR. (August 2017)
27. *Invited*. Coastal Landslide and Bluff Retreat Monitoring for Climate Change Adaptation and Targeted Risk Assessment. ODOT Geotechnical Working Group, Salem OR. (July 26, 2017). Co-presented with Ben Leshchinsky.

28. Post Disaster, Rapid Response (RAPID) Facility. NSF NHERI Coastal Hazards Engineering New User Workshop, Corvallis, OR. (July 20, 2017).
29. Point Clouds Efficient point cloud segmentation techniques to support BIM or GIS, BIM for Surveyors Workshop, FIG Working Week 2017, Helsinki Finland.
30. Collaborative research with Oregon State University (OSU) and NOAA\NGS: Towards Optimizing the Determination of Accurate Heights with GNSS, co-presented with Dr. Chris Parrish & Jihye Park, Silver Spring, MD (March 2017)
31. Equipment Wishlist. NHERI Rapid Workshop, Seattle, WA (January 27, 2017).
32. *Invited*. Geomatics at Oregon State University. Professional Land Surveyors of Oregon (PLSO) Annual Meeting, Portland OR (January 20, 2017).
33. *Invited*. Surveying with drones, lasers, and explosions. Professional Land Surveyors of Oregon (PLSO) Annual Meeting, Portland OR (January 20, 2017). Co-presentation with Chris Parrish.
34. Matt S. O'Banion*, **Olsen, M.J.**, Claire Rault, Joseph Wartman, Keith Cunningham. Comparison of Terrestrial Laser Scanning and Structure from Motion Techniques for Assessment of Unstable Rock Slopes in Alaska (poster). PacTrans Annual Regional Transportation Conference. Seattle, WA, October 2016.
35. **Olsen, M.J.**, Hurwitz, D., Kashani, A.*, & Buker, K. (2016). 3D sight distance analyses with lidar (poster). PacTrans Annual Regional Transportation Conference. Seattle, WA, October 2016.
36. Efficient Geo-referencing and analysis of terrestrial laser scanning data for slope stability assessments, International Association of Geodesists (IAG), Commission 4 Symposium, Wroclaw, Poland (September 6, 2016).
37. *Invited*. High Resolution Co-Seismic Rockfall Analysis Using Lidar Technology, OSU-China Workshop, (August 30, 2016).
38. *Invited*. Assessing, Coding, and Marking of Highway Structures in Emergency Situations, AASHTO Subcommittee on Maintenance (SCOM) Annual Meeting, Las Vegas, Nevada (July 20, 2016).
39. Mobile Lidar Guidelines to Support Utility Asset Management Along Highways, ASCE UESI Pipelines Conference, Kansas City, Missouri (July 19, 2016).
40. Virtual Reality-based Site Visibility Analysis, International Conference on Sustainable Design, Engineering and Construction, ICSDEC 2016. (May 20, 2016).
41. Terrestrial Laser Scanning Deformation Analyses of Blast-Induced Liquefaction Settlements, Federation International Geomatics (FIG) Working Week 2016, Christchurch, New Zealand (May 5, 2016).
42. Probabilistic, seismically-induced landslide hazard mapping of western Oregon, American Geophysical Union (AGU) Fall Meeting 2015, Abstract NH43D-05. (December 18, 2015)
43. Guidelines for the use of mobile lidar in transportation applications. Mobile Mapping Technology, Sydney Australia, (Dec. 11, 2015).
44. *Invited*. Guidelines for the use of mobile lidar in transportation applications. Laser Scanning- Beyond the Hype, MNG Surveys, Sydney Australia, (Dec. 8, 2015).
45. *Invited*. Guidelines for the use of mobile lidar in transportation applications. Brisbane Australia, Laser Scanning – Beyond the Hype, MNG Surveys, Brisbane, Australia (Dec. 7, 2015).
46. *Invited*. Olsen, M.J., and Wartman J. Rock slope characterization in Alaska using lidar and sfm. Presentation at GNS Science, Wellington, New Zealand, Nov. 5, 2015.

47. Olsen, M.J., and Gillins, D. How can Geomatics Technologies Benefit Geotechnical Studies?, 6th International Conference on Earthquake Geotechnical Engineering, 6ICEGE, ChristChurch, NZ. (Nov. 4, 2015).
48. Multi-pass approach for mobile terrestrial laser scanning, ISPRS Geospatial Week/Laser Scanning Workshop, La Grande Motte, France. (Sept 28, 2015).
49. Gillins, D., Parrish, C. & Olsen M.J. UAV 3D surveys for civil engineering applications, Autonomous Systems @ OSU Event, Corvallis, OR (June 30, 2015).
50. 3D laser scanning and imaging at OSU, Surveying and Geomatics Educators Society, Orono, ME (June 22, 2015).
51. Advanced change analysis algorithms for coastal landslide and erosion evaluation, 16th Annual JALBTCX Airborne Coastal Mapping and Charting Workshop, Corvallis, OR (June 18, 2015).
52. *Invited*. Olsen, M.J, and Parrish, C. (2015). "Picking through the points: considerations for lidar-based surveying," Professional Land Surveyors of Oregon Annual Meeting, Salem, OR. January 22, 2015.
53. Leshchinsky, B., Olsen, M.J., and Tanyu, B. (2014). "Automated Means of Identifying Landslide Deposits using Lidar data using the Contour Connection Method," AGU Fall Meeting, NH41B-3786, December 15-19, 2014, San Francisco, CA. Poster Presentation.
54. Santha-Mahlingham, R.*, and Olsen, M.J. (2014). "Evaluation of Landslide Mapping Techniques and Lidar-based Conditioning Factors," NH41B-3785. AGU Fall Meeting, December 15-19, 2014, San Francisco, CA. Poster Presentation.
55. Invited Panelist, Accuracy versus Cost, SPAR Europe, Amsterdam, the Netherlands (December 9, 2014).
56. Advanced change analysis algorithms for landslide and erosion evaluation, European Lidar Mapping Forum (ELMF), Amsterdam, The Netherlands (December 10, 2014).
57. EDC Round 3: 3D Engineered Models: Schedule, Cost, and Post Construction. Every Day Counts Summit, FHWA, October 23, 2014. St. Louis, MO. Co-presented with Francesca Maier.
58. Dunham, L., Wartman, J., Cunningham, K., and Olsen, M.J., Rockfall Energy Index (REI): Lidar-derived, process-based, rock-slope assessment system. Pactrans Annual meeting, Seattle, Washington, October 17, 2014.
59. Neil, J., Hurwitz, D.S., McCrea, S., and Olsen, M.J., Evaluation of Alternative Information Signs in Oregon. Pactrans Annual meeting, Seattle, Washington, October 17, 2014.
60. Guidelines for the Use of Mobile Lidar in Transportation Applications: E-learning, Geospatial Transportation Mapping Association (GTMA) & US DOT Data Palooza, Network Asset Collection committee meeting, Washington DC (June 2, 2014).
61. Guidelines for the Use of Mobile Lidar in Transportation Applications: E-learning. SPAR International, Colorado Springs, CO (April 15, 2014).
62. Invited, Detecting distributed landslide displacements from laser scans of trees, Oregon Surveyor's Conference, Salem Oregon (April 1, 2014).
63. Invited, Laser scans of blast-induced liquefaction tests in Christchurch, New Zealand, Oregon Surveyor's Conference, Salem Oregon (April 1, 2014).
64. A platform for proactive, risk-based slope asset management. Transportation Research Board Annual Meeting, Engineering Geology Subcommittee, (January 14, 2014). Co-presented with Joseph Wartman (UW).

65. 3D laser scanning – insights on impacts of earthquakes and tsunamis. CaGIS/ASPRS 2013 Specialty Conference on imaging and mapping for disaster management: from the individual to the global community. (October 29, 2013).
66. Influence of coordinate system selection for coastal deformation analyses, 2nd Joint International Symposium on Deformation Monitoring, Nottingham, UK. FIG, ISPRS, IAG. (September 9-11, 2013). Poster Presentation. Co-presented with D.T. Gillins.
67. Probabilistic Analysis of Seismically induced landslide instability and deformation in Oregon. Oregon Landslide Hazard Group, DOGAMI, Portland Oregon. (June 25, 2013).
68. Geomatics- what is it? Insights from a pre and post assessment in a GIS course, Surveying and Geomatics Educators Society (SaGES) Conference XXIV, Tyler, TX (June 18, 2013).
69. Dots for D.O.T.s: Guidelines for the use of Mobile lidar in transportation applications, SPAR International, Colorado Springs, CO (April 17, 2013).
70. Invited, In-situ change detection using 3D laser scanning, Oregon Surveyors' Conference, Salem, OR, (March 19, 2013).
71. Invited, Guidelines for the use of Mobile lidar in transportation applications, Oregon Surveyors' Conference, Salem, OR, (March 19, 2013).
72. Post-earthquake and tsunami 3D laser scanning forensic investigations, ASCE Forensics Conference, San Francisco, California, (November 1, 2012).
73. Invited, Geomatics to the Rescue!, Alaska Department of Transportation, (September 13, 2012).
74. Invited, Scanning after a disaster, SPAR International, The Woodlands, TX (April 17, 2012).
75. Invited, Student projects, research and problem-solving using 3D laser scanning across disciplines, SPAR International, The Woodlands, TX, (April 18, 2012). Presenter and Panelist.
76. Invited, Millions of points per second: mobile laser scanning at ODOT, Professional Land Surveyors of Oregon, Portland, OR, (March 16, 2012). Co-presented with Ron Singh (ODOT).
77. Capturing the impacts: 3D laser scanning following the Tohoku earthquake and tsunami," 9th CUEE and 4th ACEE Joint Conference, Tokyo Institute of Technology, Japan, (March 6, 2012).
78. Terrestrial laser scanning reconnaissance of the 2011 Tohoku Earthquake and Tsunami, International lidar Mapping Forum (ILMF), Denver, CO, (January 2012).
79. Invited, In-situ change detection using 3D laser scanning, Geological Society of America Annual Meeting, Minneapolis, MN, (October 2011).
80. Seacliff erosion analysis using 3D laser scanning, Geological Society of America Annual Meeting, (Minneapolis, MN, October 2011). Digital Poster.
81. Applications of 3D laser scanning to Earthquake Reconnaissance, Geological Society of America Annual Meeting 2011, (Minneapolis, MN, October 2011). Digital Poster.
82. Invited, Real time change detection using laser scanning and GNSS, CGSIC Annual Meeting, September 19, 2011, Portland, OR.
83. Six g's of acceleration for geomatics programs: Graduate students, gifts, ground-based lidar, graphics, GNSS, and GIS, Surveying and Geomatics Educators Society (SaGES) Conference XXIII, Mayaguez, Puerto Rico, (July 2011).
84. A wave of new information: Lidar investigations of the 2009 Samoan tsunami, ASCE Solutions to Coastal Disasters Conference. (June 2011).

85. Lidar investigations of the 2010 Maule Chile Earthquake, the 6th Int. Structural Eng. And Construction (ISEC-6), Modern Methods and Advances in Structural Engineering and Construction. (June 2011)
86. Invited, Three-way benefits of collaboration between a university, consultancy, and instrument vendor, Geosystems at Hexagon 2011 conference, Orlando, FL (June 8, 2011)
87. Invited, Efficiency evaluation of Seacliff erosion studies using terrestrial laser scanning, ODOT Surveyor's Conference, Salem, OR (March 28,2011)
88. Invited, Real Time Change Detection using laser scanning, ODOT Surveyor's Conference, Salem, OR (March 28,2011)
89. 3D laser scanning and BIM revolutionizing geomatics education at Oregon State University, SPAR 2011, Woodlands TX (March 21-24, 2011). Presenter and Panelist.
90. Invited, OPUS Datum Conversion Tool for Oregon, Oregon GPS User Group (OGUG) Meeting, Professional Land Surveyors of Oregon Conference, (January 21, 2011). Co-presented with Mark L. Armstrong.
91. Invited, OPUS Datum Conversion Tool for Oregon, Oregon GPS User Group (OGUG) Meeting (Nov. 5, 2010). Co-presented with Mark L. Armstrong.
92. Invited, Terrestrial Laser Scanning Demonstration, ASPRS Columbia River Chapter Meeting (Aug. 12, 2010)
93. Invited, 4g's of acceleration for Geomatics at Oregon State University: Graduate students, Ground-based lidar, GPS and GIS, Oregon GPS User Group (OGUG) Meeting (June 18, 2010)
94. 2D open-source editing techniques for 3D laser scans, Computer Applications and Quantitative Methods in Archeology - CAA'2010, Granada, Spain (April 7, 2010).
95. Invited, Geomatics at Oregon State University, ODOT Surveyor's Conference (March 18, 2010).
96. Invited, 3D laser scanning: Adding another dimension to civil engineering, ASCE Oregon section meeting (February 16, 2010).
97. Efficiency evaluation of Seacliff erosion studies using terrestrial laser scanning, SPAR 2010, Woodlands, TX (February 8-10, 2010).
98. Invited, lidar based damage assessment of the 2009 American Samoa tsunami, Oregon State University, Industry Advisory Board meeting, (October 30, 2009).
99. A Tale of Two Buildings: 3D laser scanning and other technologies to investigate mysteries of the past, Leica High Definition Surveying (HDS) Conference, San Ramon, CA (October 28, 2009).
100. Discovering the fate and transport of cliff failure sediment in San Diego County through terrestrial laser scanning, NSF CMMI Research and Innovation Conference, (Honolulu, Hawaii, June 22-25, 2009). Poster presentation.
101. Insights on sediment from seacliff failures using terrestrial laser scanning for rapid response in San Diego County, H2O Headwaters to Oceans Conference in Long Beach, CA (Oct 28-30, 2008).
102. Rapid Response to seacliff erosion in San Diego County using terrestrial lidar, ASCE Solution to Coastal Disasters Conference, Oahu, HI (April 13-16, 2008).
103. VR-Based Visual Analytics of Lidar Data for Cliff Erosion Assessment, ACM Symposium on Virtual Reality Software and Technology (Newport Beach, CA, Nov. 5-7, 2007). Poster presentation.

104. Geo-referencing lidar scans for high resolution coastal mapping and quantifying uncertainty, Presented at the H2O Headwaters to Oceans Conference in Long Beach, CA (Oct. 23-25, 2007).

Webinars

1. *Invited Moderator and Speaker. Effective Utilization of State-of-the-art Geospatial Technology for Geotechnical Investigations and Monitoring: The Future is Now*, National Academies of Science, Engineering, and Technology, Committee on Geological and Geotechnical Engineering (COGGE). April 7th, 2022. Co-presented with Chris Massey (GNS), Ben Leshchinsky (OSU), and Zhangwei Ning (Sixense).
2. *Invited Speaker, From Big to Small, you can do it all! Efficient approaches to analyze rockfall activity from point clouds, GAGE/SAGE Plenary Webinar, New approaches to processing big geophysical and geospatial datasets. (October 22, 2020).*
3. *Speaker, Oregon Hazards Explorer for Lifelines Program WebGIS Tools*, (January 23rd, 2020). CLiP Webinar Series, Co-presented with Dr. Jaehoon Jung.
4. *Moderator and Organizer, Clip Webinar Series, 2019-2020, 2020-2021, 2021-2022.*
5. *Speaker, OpenLSEF- A Common Language for Extracting Information from 3D Point Clouds*. ASPRS Geobytes. (April 27, 2018). Co-presented with Kevin Konynenbelt and Robert Radovanovic.
6. *Moderator and Speaker. Assessing, Coding, and Marking of Highway Structures in Emergency Situations*, Transportation Research Board, National Academies of Sciences, (June 15, 2017). Co-presented with Marc Veletzos and Zhiqiang Chen.
7. *Moderator. Effective use of geospatial technologies in highway construction*, Federal Highway Administration, March 29, 2017.
8. *Panelist. EDC Round 3: 3D Engineered Models: Schedule, Cost, and Post-Construction*, Federal Highway Administration, Every Day Counts (EDC) 3, September 25, 2014.
9. *NCHRP 15-44- Guidelines for the use of mobile lidar in transportation applications: Part III Technical Considerations*, Transportation Research Board, National Academies of Sciences, (February 5, 2014). Co-presented with Gene Roe and Marcus Reedy. Approximately 300 attendees.
10. *Invited Webinar – Lidar: Mapping the future of Civil Engineering*, Kleinfelder monthly webinar series, (November 12, 2013).
11. *NCHRP 15-44- Guidelines for the use of mobile lidar in transportation applications: Part II Management Considerations*, Transportation Research Board, National Academies of Sciences, (December 12, 2013). Co-presented with Gene Roe, and Marcus Reedy.
12. *NCHRP 15-44- Guidelines for the use of mobile lidar in transportation applications Part I*, Transportation Research Board, National Academies of Sciences, (April 11, 2013). Co-presented with Gene Roe, Marcus Reedy, and Fred Persi. Over 700 attendees (3rd highest of all TRB webinars)

Misc. seminars and presentations

1. **Invited Panelist.** Surveying Education and the Need to Fill Workforce Requirements, Special Session, ASCE UESI Surveying and Geomatics Conference, Lawrenceburg, IN (October 2022)
2. **Invited Panelist.** New ASCE Manual of Practice on Surveying and Geomatics Engineering: Principles, Technologies, and Applications, Special Session, ASCE UESI Surveying and Geomatics Conference, Lawrenceburg, IN (October 2022)
3. **Invited.** Raise the bar with lidar: Sight Distance and More, Transport, Virtual Meeting (April 2022).

4. *Invited*. Lots of Lidar: Now what do we do with it?, University of Massachusetts- Amherst, Transportation Seminar Series, (Oct 22, 2020). Virtual.
5. Cascadia Lifelines Program, Quarterly Lane County Joint Utilities Meeting, Eugene, OR. November 14, 2019.
6. *Cascadia Lifelines Program*, Central Lincoln People's Utility District, Newport, OR. November 8, 2019.
7. *Invited*. Geomatics, Deans Leadership Council (October 19, 2018).
8. Terrestrial laser scanning deformation analyses of blast-induced liquefaction settlements, GIS Day, Hyperwall demonstration, Corvallis, OR (November 11, 2016).
9. *Invited*. Applications of lidar for geo-hazards. CH2MHill Geotechnical Lecture Series, April 2016
10. Discovering the fate and transport of cliff failure sediment in San Diego County through terrestrial laser scanning, Jacobs School of Engineering Research Expo, University of California, San Diego (Feb. 19, 2009). Poster Presentation.
11. Rapid response to seacliff erosion in San Diego County using terrestrial lidar, Jacobs School of Engineering Research Expo, University of California, San Diego (Feb. 21, 2008). Poster Presentation.
12. High Resolution Mapping Techniques of the Coastline of San Diego County, Jacobs School of Engineering Research Expo, University of California, San Diego (Feb. 22, 2007).

Session Moderator

1. *Opportunities for Geomatics Engineers within the ASCE Future World Vision*, ASCE UESI Surveying and Geomatics Conference, Lawrenceburg, IN (October 2022). Lead Organizer
2. *Invited, Surveying and Mapping*, ASCE UESI Pipelines Conference. Phoenix, AZ (August 2017).
3. *Invited, Ethics*, ASCE UESI Pipelines Conference. (July 18, 2016).
4. *Invited, Mapping for Transportation B*, Mobile Mapping Technology (MMT2015), Sydney, Australia, (Dec. 11, 2015).
5. *Invited, Best Practices for Successful Implementation of Automated Machine Guidance*, Transportation Research Board Annual Meeting, sponsored by Committee AFB80.
6. *Invited, Geospatial Information Analysis Modeling – lidar and elevation data processing to support disaster management*, CaGIS/ASPRS 2013 Specialty Conference on imaging and mapping for disaster management: from the individual to the global community. (October 29, 2013).

Participation at Invitational Workshops

1. *Attendee, NSF ERC Planning Grant Workshop*, Alexandria, VA (October 2019).
2. *Presenter, Tools for seismic-induced rockfall hazard analysis*, Endeavour programme workshop: Earthquake-induced landslides and landscape dynamics: planning for, and avoiding landslide hazard and risk, Kaikoura, New Zealand (January 2019).
3. *Invited Presenter, Resources available for researchers through the NSF Natural Hazards Research Infrastructure (NHERI) Rapid Facility*. EarthCube Research Coordination Network Workshop - Advancing the Analysis of High Resolution Topography (A2 HRT), August 21-24, 2018, Omni Interlocken Hotel, Broomfield, CO
4. *Presenter, SFM vs Lidar*, Endeavour programme workshop: Earthquake-induced landslides and landscape dynamics: planning for, and avoiding landslide hazard and risk, GNS Science, Lower Hutt, New Zealand, (February 27, 2018).
5. *Participant, National Center for Airborne Lidar, Science Workshop*, Houston Texas (November 9, 2017)

6. *OSU Delegate*, UCGIS 2016 Symposium, Scottsdale, AZ (May 24-26, 2016).
7. *ASCE Editor's Workshop*, Reston, VA (November 2015-2022).
8. *Attendee*, Design to Paver, Oregon DOT & FHWA, Corvallis, Oregon, (July 9-10, 2014). *Assisted with arranging tours of various OSU CCE labs.*
9. *OSU Delegate*, UCGIS 2014 Symposium, Pasadena, CA (May 19-21, 2014).
10. *Presenter*, NSF Industry/University Cooperative Research Center (I/UCRC) Industry Planning Workshop, Corvallis, Oregon (July 31- August 1, 2013).
11. *Attendee*, PEER NGA-West2 Project, EERI, Long Beach, CA (November 8, 2013).
12. *Poster Presentation*. Post-Disaster Structural Data Collection Following the 11 March 2011 Tohoku, Japan Tsunami, NSF Rapid Workshop, (Arlington, VA, February 2012).
13. *Mock Reviewer*, NSF Proposal Writing Workshop, Lincoln, Nebraska, (September 1-2, 2010).
14. *Attendee*, Design to Dozer, Oregon DOT, Eugene, Oregon, (August 17-18, 2010).
15. *Lecturer*, Overview of Coordinate Systems, Oregon Coordinate Reference System (OCRS) roll-out workshop, (April 16, 2010).
16. *Invited Presenter*, Understanding coastal change through terrestrial laser scanning, PARI blast liquefaction workshop, (September 25, 2009)
17. *Presenter*. Lateral Spreading Hazard Mapping for a M7.0 Earthquake in Northern Salt Lake County, Utah Liquefaction Advisory Group Workshop, Salt Lake City, UT (March 4, 2005).
18. *Presenter*. Liquefaction Hazard Mapping for Northern Salt Lake County, Utah Liquefaction Advisory Group Workshop, Salt Lake City, UT (October 18, 2004).

FUNDED RESEARCH AND CONTRACT SUPPORT

Current

Agency	Dates	PI (and coPIs)	Title	Total Budget
National Academies TRB/NCHRP	11/23/2022-5/22/2025	Turkan Y (PI), Simpson C (Co-PI), Olsen MJ (Co-PI), Jung J. (Co-PI), Parrish C. (Co-PI), Tran D. (Co-PI, UK), Harris D. (UVA)	<i>Guidelines for Digital Technologies and Systems for Remote Construction Inspection for Highway Infrastructure Projects</i>	\$500,000
ODOT	9/21/2022-12/29/2022	Olsen, M.J. (PI), Leshchinsky, B. (Co-PI), Wartman J. (Co-PI)	<i>SPR864: Improved Rockslope Safety for Reduced Maintenance</i>	\$368,000
ODOT	9/19/2022-3/31/2025	Che, E. (PI), Jung J. (Co-PI), Olsen MJ (PI)	<i>PROTOTYPING AUTOMATED FRAMEWORK FOR ASSET EXTRACTION AND CHARACTERIZATION FROM MOBILE LIDAR DATA</i>	\$285,000
NSF	7/1/2022-6/30/2023	Che E. (PI), Simpson C. (Co-PI), Olsen MJ (Co-PI), Fischer E (Co-PI), Bailey M (Co-PI)	<i>RAPID: Structural Assessments for Buildings Exposed to a Corrosive Environment: Data Collection at the Blue Heron Paper Mill, Historical Industrial Site at Willamette Falls, Oregon</i>	\$119,902

ODOT	7/1/2022-6/30/2023	Olsen, M.J. (PI), Simpson, C. (Co-PI), Jung, J. (Co-PI)	<i>Living WebGIS Survey Control Database</i>	\$90,000
Cascadia Lifelines Program (CLiP)	6/15/2022-6/14/2023	Olsen, M.J., (PI), Various Co-PIs	<i>Cascadia Lifelines Program Phase IX</i>	\$195,000
NSF	1/1/2022-12/31/2025	<i>Ben Leshchinsky (PI), Olsen, MJ (Co-PI), Wartman, J (Co-PI), Massey C (Co-PI, GNS Science)</i>	<i>Collaborative Research: Parameterizing The Drivers and Timing of Post-Earthquake Landslides</i>	\$813,340
Pactrans	12/16/2021-3/16/2023	Darrow, M.(PI, UAF), Leshchinsky, BA (Co-PI), Olsen, MJ, (Co-PI), Wartman, J (Co-PI, UW)	A RAI of Data: Generalizing the Data-driven Rockfall Activity Index (RAI) based on Long-term Observations of Well Characterized Slopes	\$180,000
UW TRAC (Poole Fund)	11/10/2021-8/31/2025	Wartman, J. (PI, UW), Hutchinson, J. (Co-PI, Queens), Olsen, M.J., (Co-PI), Che, E., (Senior Personnel).	<i>Developing and Calibrating Fragmental Rockfall Models using Physics Engines</i>	\$620,000
ODOT	10/15/2021-6/30/2024	<i>Olsen MJ (PI), Che, E. (Co-PI), Jung J. (Co-PI),</i>	<i>Automating lidar data to develop and manage active transportation asset inventories</i>	\$250,000
ODOT	10/5/2021-3/31/2025	<i>Ben Leshchinsky (PI), Roering, J., (Co-PI, UofO), Bill Burns, (Co-PI, DOGAMI), Kevin Bladon (Co-PI), Olsen, MJ (Co-PI),</i>	<i>Predicting Near Real-Time Post-Fire Debris Flow Along ODOT Corridors</i>	\$423,000
NSF	9/1/2021-9/30/2025	Wartman, J. (PI), Olsen, M.J., (Co-PI), Irish, J. (Co-PI), Everett, N., (Co-PI), and Berman, J. (Co-PI)	<i>Natural Hazards Engineering Research Infrastructure: Natural Hazard and Disaster Reconnaissance (RAPID) Facility 2021-2025</i>	\$6,082,174
FAA	9/1/2021-11/30/2023	<i>Olsen, M.J. (PI), Fischer, E. (Co-PI), Adams, J., (Co-PI)</i>	<i>A52_ A11L.UAS.68: - Disaster Preparedness and Response</i>	\$3,350,009
ODOT	9/1/2020-12/31/2023	<i>Olsen, MJ, (PI), Trejo, D (Co-PI)</i>	<i>SPR 844: Evaluation of Curb Ramp Compliance: Review of Tools, Methods, and Time to Develop Error Tolerances</i>	\$270,000
ODOT	8/15/2020-6/30/2023	<i>Olsen, MJ (PI), Co-PIs: Leshchinsky, B., Parrish, C, Dundas S. and Allan J.</i>	<i>SPR 843: US Highway 101 Coastal hazard vulnerability and risk assessment for mitigation prioritization</i>	\$289,500
National Academies TRB/NCHRP	8/6/2020-11/7/2022	<i>Barbosa, A., (PI), Olsen, MJ, Veletzos, M., and Chen, Z.</i>	<i>Guidelines for Response Planning, Assessment, and Rapid Restoration of Service of Bridges in Extreme Events</i>	\$400,000

NSF-EECS	9/15/2019-8/31/2022	Brekken, T. (PI), Stuedlein, A., Olsen, M.J., and Cotilla-Sanchez, E. (Co-PIs)	<i>Earthquake Resilience of the Western Power Grid</i>	\$441,792
Oregon DOT	7/14/2016-7/31/2024	Olsen, M.J. (PI), Leshchinsky, B. (Co-PI)	<i>SPR807- Coastal Landslide and Bluff Retreat Monitoring for Climate Change Adaptation and Targeted Risk Assessment</i>	\$783,837
Totals				\$15,461,554

Completed

Agency	Dates	PI (and coPIs)	Title	Total Budget
ODOT	10/13/21-6/30/22	Olsen, M.J., (PI) Leshchinsky, B. (Co-PI), Wartman J., (Co-PI, UW)	<i>Implementation Training SPR809</i>	\$10,000
Cascadia Lifelines Program (CLIP)	6/15/21-6/14/22	Olsen, M.J., (PI), Various Co-PIs	<i>Cascadia Lifelines Program Phase VIII</i>	\$233,000
Pactrans	3/1/21-11/30/21	Che, E., (PI), Olsen, M.J., (Co-PI)	<i>Vo-Norvana: A Practical Software Tool for Quick Point Cloud Processing</i>	\$10,000
Pactrans	9/16/20-9/15/21	Darrow, M.(PI), Leshchinsky, BA (Co-PI), Olsen, MJ, (Co-PI), Wartman, J (Co-PI)	<i>The Long-Term Effect of Earthquakes: Using Geospatial Solutions to Evaluate Heightened Rockfall Activity on Critical Lifelines</i>	\$180,000
NSF	9/15/20-6/15/21	Turkan, Y (PI). Co-PIs: Olsen, M.J., Li, F., Cho, Y., and Chen R.	<i>NSF Convergence Accelerator Track D: Rapid Development of Intelligent, Built Environment Geo-Databases Using AI and Data-Driven Models</i>	\$920,000
Pactrans	8/15/20-8/14/21	Turkan, Y (PI), Olsen, M.J. (Co-PI) Proposal led by Ezra Che (Post-doc)	<i>Automated Localization and ADA Functional Condition Assessment of Curb Ramps using Mobile Lidar</i>	\$40,000
FAA	7/15/20-1/28/22	Adams, J., (PI), Fischer, E. (Co-PI), Olsen, MJ (Co-PI)	<i>A28_ A11L.UAS.68: - Disaster Preparedness and Response</i>	\$2,000,000
Cascadia Lifelines Program	6/15/20-6/14/21	Olsen, M.J. (PI), Various Co-PIs	<i>Cascadia Lifelines Program Phase VII</i>	\$250,000
Pactrans	3/1/20-11/30/20	Olsen, M.J., (PI), Christopher Parrish (Co-PI) Proposal led by Jaehoon Jung (Post-doc)	<i>Extraction and Classification of Pavement Markings Program</i>	\$10,000
OSU Foundation-Venture Development Fund-Accelerator	3/1/20-11/15/20	Olsen, M.J. (PI). Proposal led by Ezra Che (Post-doc)	<i>Efficient Point Cloud Preprocessing Framework</i>	\$40,000
Quantum Spatial	2/15/20-12/31/20	Olsen, M.J. (PI), Parrish C. (Co-PI)	<i>Topobathymetric Processing Improvements</i>	\$55,000
Quantum Spatial	2/15/20-12/31/20	Olsen, M.J. (PI), Parrish C. (Co-PI)	<i>Topobathymetric Processing Improvements</i>	\$65,000
ODOT	1/21/20-9/30/21	Olsen, M.J., (PI), Ben Leshchinsky (Co-PI)	<i>Implementation of Real-Time Surface Monitoring for Active Landslides</i>	\$44,000

FHWA	1/15/20-12/15/21	Mallela, J.,(PI). Co-PIs: Turkan, Y, Parrish, C., Simpson, C., Olsen, M.J., Murphy, R.	FHWA Every Day Counts 5 (EDC5) Unmanned Aerial Systems	\$343,000
OSU Foundation-Venture Development Fund-Accelerator	1/14/20-7/14/20	Olsen, M.J. (PI). Proposal led by Ezra Che (Post-doc)	Mo-norvana project focused on developing a point cloud processing framework	\$15,000
OSU Innovation Days Award	1/1/20-6/30/20	Olsen, M.J. (PI) - Proposal led by Ezra Che (Post-doc)	Idea Pitch: Mo-norvana demo version and feedback	\$5,000
NSF-EEC	9/1/19-8/31/20	Olsen, M.J. (PI), Bailey, M, Parrish, C., Park, J., and Turkan, Y. (Co-PIs)	Planning Grant: Engineering Research Center for Built Infrastructure Geospatial Data Acquisition, Visualization, and Analysis (BIGDAVA)	\$99,999
Cascadia Lifelines Program (CLiP)	6/15/19-6/14/20	Olsen, M.J., (PI), Various Co-PIs	Cascadia Lifelines Program Phase VI	\$250,000
NSF-CMMI	4/15/19-3/31/20	Leshchinsky, B., (PI), Wartman J. (UW, Co-PI) and Olsen, M.J., (Co-PI)	RAPID: Quantifying Temporal Changes in Rockfall Magnitude-Frequencies for Well-Characterized Rockslopes Shaken by the 2018 Alaska Earthquake	\$55,000
ODOT	4/1/19-6/30/20	Olsen, M.J. (PI), Leshchinsky, B.A. (Co-PI), Wartman, J. (Co-PI), & Massey, C. (Co-PI)	SPR 809. Seismic Induced Rockfall Hazard Prediction for Targeted Site Mitigation. Supplement for GUI development	\$60,000
ODOT	10/1/18-6/30/19	Olsen, M.J., Ben Leshchinsky (Co-PI)	Quick Hit: UAS LIDAR Proof of Concept at Spangler Landslide	\$20,000
Pactrans	8/15/18-8/15/20	Cunningham, K. (PI, UAF), Olsen, M.J. (Co-PI, OSU), Wartman J. (Co-PI, UW), Ben Leshchinsky (Co-PI)	Quantifying impacts of rockfall on mobility of critical transportation corridors	\$180,000
Pactrans	8/15/18-8/15/19	Olsen, M.J. (PI), Parrish, C. (Co-PI)	Efficient Extraction and Evaluation of Complex Pavement Markings from Mobile Laser Scan Data	\$30,000
Pactrans	3/1/18-7/31/18	Olsen, M.J. (PI), Parrish, C. (Co-PI)	3D Virtual Visibility Analysis Program	\$10,000
NOAA/NGS (CIMRS)	10/1/17-9/30/18	Park, J. (PI), Parrish, C. (Co-PI), and Olsen M.J. (Co-PI)	Towards Optimizing the Determination of Accurate Heights using GNSS (Phase III)	\$47,126
Oregon DOT	9/15/17-6/30/20	Olsen, M.J. (PI), Leshchinsky, B.A. (Co-PI), Wartman, J. (Co-PI), & Massey, C. (Co-PI)	SPR 809. Seismic Induced Rockfall Hazard Prediction for Targeted Site Mitigation	\$224,511
Cascadia Lifelines Program (CLiP)	9/15/17-9/14/18	Olsen, M.J. (PI), Park, J. (Co-PI), & Parrish, C. (Co-PI)	Improved post-earthquake rebuild and recovery: Coordination through consistent coordinates	\$35,355

Cascadia Lifelines Program (CLiP)	9/15/17-9/14/18	Wang, H.(PI), Barbosa, A. (Co-PI) & Olsen, M.J., (Co-PI)	Post-disaster Accessibility to Critical Hospital Facilities in Portland	\$62,058
Cascadia Lifelines Program (CLiP)	9/15/17-9/14/18	Leshchinsky, B.A.(PI) & Olsen, M.J., (Co-PI)	OHELP3D: Integrated CSZ Hazard Visualization and Analysis for Infrastructure	\$53,907
Oregon DOT	8/1/17-10/31/18	Turkan, Y (PI), Gambatese, J. (Co-PI), Olsen, M.J. (Co-PI)	Project Progress Tracking using LIDAR and 4D Information Models	\$79,554
Oregon DOT	8/1/17-12/31/20	Leshchinsky, B.A. (PI), Olsen, M.J. (Co-PI), Booth, A. (Co-PI)	SPR808. Enhanced Assessment of Projected Landslide Activity	\$425,090
USFS	1/11/17-12/31/21	Leshchinsky, B.A., (PI), Olsen, M.J., (Co-PI)	Enhancing Landslide Inventorying using LiDAR USFS Landslide Inventorying Tools using LiDAR and GIS	\$125,000
Pactrans	12/15/16-1/31/18	Cunningham, K. (PI, UAF), Olsen, M.J. (Co-PI, OSU), Wartman J. (Co-PI, UW), Ben Leshchinsky (Co-PI)	Transportation Corridor Resiliency in the Face of a Changing Climate	\$160,000
NOAA/NGS (CIMRS)	10/1/16-9/30/17	Gillins, D. (PI), Parrish, C. (Co-PI), Park, J. (Co-PI), Olsen M.J. (Co-PI)	Towards Optimizing the Determination of Accurate Heights using GNSS (Phase II)	\$150,000
Cascadia Lifelines Program (CLiP)	10/1/16-9/31/17	Olsen, M.J. (PI) & Leshchinsky, B.A. (Co-PI)	O-HELP: A Web-Based GIS Tool for Assessing Earthquake Hazards in Oregon (Phase III)	\$50,000
Oregon DOT	9/19/16-10/31/17	Gambatese, J. (PI) & Olsen, M.J. (Co-PI)	Construction Workzone Safety	\$49,518
National Science Foundation (CMMI, NHERI)	9/1/16-8/31/21	Wartman, J. (PI), Olsen, M.J., (Co-PI), Irish, J. (Co-PI), Miles, S., (Co-PI), and Berman, J. (Co-PI)	Natural Hazards Engineering Research Infrastructure: Post-Disaster, Rapid Response Research	\$5,772,639
Oregon DOT	8/30/16-12/31/17	Hurwitz, D.S. (PI) & Olsen, M.J. (Co-PI)	Driving Distractions Due to Drones	\$77,236
Oregon DOT	7/14/16-7/31/24	Olsen, M.J. (PI), Leshchinsky, B. (Co-PI)	SPR807- Coastal Landslide and Bluff Retreat Monitoring for Climate Change Adaptation and Targeted Risk Assessment	\$650,837
Oregon DOT	7/1/16-11/30/18	Olsen, M.J. (PI), Parrish, C. (Co-PI)	SPR799-Lidar for Maintenance of Pavement Reflective Markings and Retro-Reflective Signs	\$165,000
ODOT	12/21/15-5/31/18	Leshchinsky, B.A., (PI), Olsen, M.J., (Co-PI)	SPR 786: Enhancing Landslide Inventorying, Hazard Assessment and Asset Management using LiDAR	\$250,000
Cascadia Lifelines Program (CLiP)	10/1/15-9/31/16	Gillins, D.T., (PI), & Olsen M.J., (Co-PI)	O-HELP: A Web-Based GIS Tool for Assessing Earthquake Hazards in Oregon (Phase III)	\$50,000

FHWA	9/24/15-3/15/17	Mallelah, J. (PI, Parson's Brinkerhoff), Olsen M.J. (Co-PI) Parrish, C. (Co-PI), Gillins, D. (Co-PI)	Effective Use of Geospatial Tools in Highway Construction	\$349,648
NSF (CMMI, NEES)	7/1/15-6/30/16	OSU Barbosa, A. (PI) and Olsen, M.J. (Co-PI)	RAPID/Collaborative Research: Post-Disaster, Reinforced Concrete Building Performance Data Collection following the April 25, 2015 Nepal Earthquake	\$81,326
National Academies of Science, Transportation Research Board, NCHRP	6/30/15-3/30/17	Olsen, M.J.	NCHRP 15-44: Guidelines for the use of mobile lidar in transportation applications E-Learning Phase III.	\$39,156
PACTRANS	1/15/15-12/15/16	Cunningham, K. (PI, UAF), Olsen, M.J. (Co-PI, OSU), Wartman J. (Co-PI, UW)	Unmanned Aircraft System Assessments of Landslide Safety for Transportation Corridors	\$180,000
PACTRANS	1/15/15-12/15/16	Olsen, M.J., (PI) Co-PIs: Kashani, A. & Hurwitz, D.S.	3D Virtual Sight Distance Analysis Using Mobile Lidar Data	\$30,000
Cascadia Lifelines Program (CLiP)	10/1/14-9/30/15	Gillins, D.T., (PI), & Olsen M.J., (Co-PI)	O-HELP: A Web-Based GIS Tool for Assessing Earthquake Hazards in Oregon (Phase II)	\$67,716
National Academies of Science, Transportation Research Board, NCHRP	6/15/14-6/30/15	Olsen, M.J.	NCHRP 15-44: Guidelines for the use of mobile lidar in transportation applications E-Learning Phase II.	\$32,739
National Science Foundation (CMMI, Geotechnical)	5/15/14-10/31/16	Wartman, J., (PI, UW), Olsen, M.J., (Co-PI), Motely, M. (Co-PI, UW)	Collaborative Proposal: RAPID: Investigation of the Effects of Rockfall Impacts on Structures During the Christchurch Earthquake Series,	\$169,619
National Science Foundation (CMMI, CDS&E)	4/1/14-3/31/19	Olsen, M.J. (PI)	CAREER/CDS&E: Advanced, 3D Infrastructure Information Modeling using lidar	\$400,000
National Academies of Science Transportation Research Board NCHRP	11/1/13-10/31/15	Olsen, M.J. (PI) Co-PIs: Barbosa, A. (OSU), Veletzos, M. (Merrimack), Chen, Z. (UMKC).	NCHRP 14-29: Assessing, Coding, and Marking of Highway Structures in Emergency Situations, National Academy of Sciences	\$399,655
PACTRANS, AK DOT	11/1/13-10/31/14	Cunningham, K. (PI, UAF), Olsen, M.J. (Co-PI, OSU), Wartman J. (Co-PI, UW)	A Platform for Proactive Risk-Based Slope Asset Management (Phase II).	\$250,000

National Science Foundation (CCNIE)	10/1/13-9/30/15	Tyler, B. (PI), Senior Personnel: S. Apte, J. Beckman, L. Brooks, T. Dietterich, H. Diggs, T. Hilker, M. Olsen, R. Spinrad, R. Tanguay, S. Yim	CC-NIE Networking Infrastructure: Network	\$499,954
Cascadia Lifelines Program (CLiP)	10/1/13-9/30/14	Gillins, D.T., (PI), & Olsen M.J., (Co-PI)	O-HELP: A Web-Based GIS Tool for Assessing Earthquake Hazards in Oregon.	\$51,529
PACTRANS, Travel Oregon	7/1/13-8/31/15	Hurwitz, D. (PI) Olsen, M.J, (Co-PI)	Evaluation of Existing and Alternative Information Signs in Oregon	\$60,000
National Academies of Science Transportation Research Board NCHRP	6/15/13-6/30/14	Olsen M.J., (PI)	NCHRP 15-44: Guidelines for the use of mobile lidar in transportation applications E-Learning Phase I.	\$78,787
PACTRANS, AK DOT	8/1/12-10/31/13	Metzger, A. (PI, UAF), Olsen, M.J. (Co-PI, OSU), Wartman J. (Co-PI, UW), Stuedlein, A.W. (Co-PI), & Arduino, P. (Co-PI, UW)	A Platform for Proactive Risk-Based Slope Asset Management (Phase I)	\$333,000
PACTRANS	7/1/12-6/30/13	Hurwitz, D. (PI) Olsen, M.J, (Co-PI)	Rendering of Dense, Point Cloud Data in a High Fidelity Driving Simulator.	\$40,000
National Academies of Science Transportation Research Board NCHRP	10/1/11-3/1/13	Olsen M.J.(PI)	Synthesis 20-05, Topic 43-09: Advanced Geospatial Tools in Transportation	\$40,000
National Academies of Science Transportation Research Board NCHRP	9/15/11-3/15/13	Olsen M.J. (PI), Glennie C., (Co-PI), Hurwitz, D. (Co-PI)	NCHRP 15-44: Guidelines for the use of mobile lidar in transportation applications	\$249,902
Oregon DOT	9/1/11-9/1/12	Olsen M.J. (PI)	SPR 744: Inertial and inclinometer-based profiler repeatability and accuracy using the IRI model	\$90,000
Oregon Parks and Recreation Department (OPRD)	6/15/11-7/1/11	Olsen M.J. (PI)	Laser scanning of Fort Yamhill	\$1,991
NSF (CMMI- NEES)	6/1/11-6/1/12	U. Hawaii Robertson I. (PI), Cheung, F.C. (Co-PI) OSU Olsen M.J. (PI), Yim, S. (Co-PI)	Collaborative Research: RAPID – Post-disaster structural data collection following the 11 March 2011 Tohoku, Japan Tsunami,	\$42,523

Oregon DOT	4/1/11-9/1/13	Olsen M.J. (PI), Ashford S (Co-PI)	SPR 740: Impacts of potential seismic landslides on lifeline corridors	\$240,000
OTREC\Oregon DOT	10/1/10-9/1/11	Olsen M.J. (PI)	2011-398: Real-time change and damage detection of landslides and other earth movements threatening public infrastructure	\$91,683
Granite Construction/OSU	6/1/10-5/30/11	Sillars D.N. (PI), Olsen M.J. (Co-PI)	Evaluation of Surficial Slope Failures	\$126,043
Totals:				\$17,298,101

ADDITIONAL PROJECTS

Survey data acquisition and/or data processing to support research collaborations

- 12/2019 – Blast-induced liquefaction laser scan surveys, Christchurch, NZ
- 9/2019 – Pile cap laser scans, Wavelab
- 8/2019 – Wavelab Biocementated Dune Surveys, LWF
- 4/2019 – Wavelab test surveys
- 2/2019– Wavelab test surveys
- 9/2017 – Wavelab Island Surveys, HRWL
- 5/2017 – Debris Flume Experiments, HJ Andrews Experimental Forest, USGS.
- 11/2016 – Kaikoura Post-earthquake lidar surveys, GEER.
- 8/2016 – HJ Andrews Forest Plot Surveys, Forestry
- 7/2016-9/2016 – Wavelab Island surveys, HRWL
- 9/2014 – HJ Andrews Experimental Forest, Watershed #1 Digital Elevation Model, CEOAS
- 4/2013 & 2/2014 - HRWL, Macro Roughness survey of steel beach, Virginia Tech
- 10/2013 & 12/2013 - Christchurch, New Zealand, Blast-induced liquefaction ground settlement and house deformation analysis, Tonkin & Taylor, Earthquake Commission of New Zealand
- 12/2013 - HWRL, White Point Outfall gravel displacement analysis, Parsons
- 2/2013 – HWRL, Tsunami Basin floor elevation re-survey, OSU
- 8/2012 - McDonald Dunn forest scans, Watershed Sciences, Inc.
- 7/2012 - Shadow Lake, OR. Forest research site surveys, CEOAS (Geography)
- 5/2012 - Cape Arago, OR. TLS acquisition and topographic modeling, USGS
- 9/2011 – Redmond, WA. Spiral Nail Wall Deformation Analysis, Shannon & Wilson
- 8/2011 – Mt. Hood, OR. Blue Ridge Fault Trench Mapping, DOGAMI
- 7/2011 – HWRL, Volcanic island survey, Georgia Tech
- 5/2011 - Fogarty Creek, OR. Coastal TLS acquisition, USGS
- 11/2010 & 2/2011 – HRWL, Gravel beach deformation analysis (wave buoy array), OSU CCE (Coastal Engineering).
- 1/2011 - Central point MSE wall deformation analysis, Oregon DOT.
- 11/2010 – HRWL, Long Wave Flume coordinate system and control definition, OSU
- 9/2010 – HRWL, Ramp surveys, OSU
- 9/2010 – Structural Testing Lab, Gusset Plate Deformation Survey, OSU CCE (Structural)
- 6/2010 – Hinsdale Wave Research Lab (HWRL), Canon Beach model survey, OSU

- 6/2010 –HWRL, Coordinate system and control definition for tsunami basin, floor elevation survey, OSU
- 10/2009 – Geotechnical Field-Testing Site, Soil Pit Survey and Volumetric Analysis, OSU CCE (Geotechnical)

DEVELOPED ALGORITHMS AND COMPUTATIONAL PROGRAMS

Most available at <http://web.engr.oregonstate.edu/~olsen/> or by request

1. Rambo – A tool to perform rockslope hazard classification from point cloud data. This program also performs surface modeling, ground filtering, hole filling, and individual rockfall detection.
2. Contour Connection Method – A tool to perform automated landslide inventory mapping. Primary Developers: Ben Leshchinsky and Michael Ewald.
3. Liscan – Lidar In Situ Change ANalysis – A tool to perform change analysis of 3D laser scans immediately upon acquisition. Developed with OSU students Shawn Butcher, Evon Silvia, Alfred Flammana, Rebecca Pankow, and Andrew Johnson.
4. Bin N' Grid – A program to perform statistical filtering of point cloud data (e.g. vegetation removal) to produce a DTM grid.
5. NAD83 CORS Conversion Tool – A tool for converting point data between datums and epochs. Input provided by Mark Armstrong (NGS) and Ken Bays (ODOT).
6. Liquefaction Hazard Analysis Tools – A series of Visual Basic for Applications (VBA) routines in ArcGIS® to perform regional, deterministic and probabilistic liquefaction, lateral spread, and settlement analysis using geotechnical, seismic, and remote sensing data
7. PointReg – Automated algorithm to geo-reference 3D laser scan point clouds using GPS data and least squares evaluation between neighboring scans and to assess scan data accuracy
8. TOPCAT: TOPographical Change Analysis Tools – A series of VBA routines embedded in ArcGIS® to perform statistical change analysis of cliffs, beaches, etc. Contains additional tools to process and extract information from lidar data
9. PTXEditor (co-developed with Jason Kimball and Kevin Ponto) – A program to extract photograph, range, and intensity information as 2D images from 3D laser scans. It also screens data based on edits of the extracted 2D images
10. Lidar tools – A suite of tools to aid in common processing and editing tasks for lidar data including file merging, data conversion, filtering data by extents and by subdivision to remove redundancy and noise, graphical change detection, volumetric analysis, and profile extraction
11. Tri-Seacliff – Automated 3D surfacing modeling and volumetric change analysis for seacliffs including optimizations for display and interactivity

PUBLISHED DATABASES

1. Archibald, G. Massey, C. Olsen, M. Lukovic, B. Wartman, J. Senogles, A. Leshchinsky, B. (2021) "Terrestrial Laser Scans of Rockslopes", in Terrestrial laser scans of the Port Hills Rockfall from the Canterbury New Zealand Earthquake Sequence. DesignSafe-Cl. <https://doi.org/10.17603/ds2-5q4s-nx82> v1
2. Olsen, M; Wartman, J; Leshchinsky, B; Shaefer, K; Cunningham, K, 2021, "Rockfall Impacts on Mobility (RIM) Database", <https://doi.org/10.7910/DVN/5J7JTL>, Harvard Dataverse, V1
3. Olsen, Michael; Jung, Jaehoon, 2020, "Extracted and classified road markings from a mobile lidar dataset collected in Philomath, OR.", <https://doi.org/10.7910/DVN/OSTTJR>, Harvard Dataverse, V1
4. Leshchinsky, B. Olsen, M. Wartman, J. Che, E. Senogles, A. Mathews, N. Shobert, S. Grilliot, M. Lyda, A. Dafni, J. (2020) "2018 Anchorage Alaska Rockslope Laser Scan Surveys", in RAPID: Quantifying Temporal

Changes in Rockfall Magnitude-Frequencies for Well-Characterized Rockslopes Shaken by the 2018 Alaska Earthquake. DesignSafe-CI. <https://doi.org/10.17603/ds2-jmfv-9171>.

5. Wood, Richard, Barbosa, Andre, Soti, Rajendra, Abdulrahman, Linh, Olsen, Michael, Mohammadi, Mohammad Ebrahim. (2019) "2015 Nepal Earthquake Data Archive: Nyatapola Temple", in 2015 Nepal Earthquake Data Archive: Nyatapola Temple. DesignSafe-CI. <https://doi.org/10.17603/DS2DT3B>.
6. Bartlett, S.F., Olsen, M.J., Sharifi-Mood, M., Gillins, D., Erickson, G., and Franke, K. () "Geotechnical Database for Utah (GeoDU)", in Geotechnical Database for Utah (GeoDU). DesignSafe-CI. doi:10.17603/DS2ST19.
7. Olsen, Michael, Wood, Richard, Gillins, Dan, Barbosa, Andre, Stavridis, Andreas, Burns, Patrick, Gillins, Matthew, Soti, Rajendra, Mohammadi, Mohammad Ebrahim, Javadnejad, Farid, Burchard, Catherine , Allahyari, Mahsa, O'Banion, Matthew, Che, Erzhuo, Ferreira Viana, Lucas Jose, Bose, Supratik, . (2017) "Lidar Scans of Reinforced Concrete Building Performance following the April 25, 2015 Nepal Earthquake", in Lidar Scans of Reinforced Concrete Building Performance following the April 25, 2015 Nepal Earthquake. DesignSafe-CI. <https://doi.org/10.17603/DS2P082>.

RECONNAISSANCE TEAMS AND EFFORTS

- 2016 Amberley\Kaikoura New Zealand Earthquake (November-December 2016, May 2019), Geo-Extreme Events Reconnaissance. Coordination, Ground-based Lidar Field Team, Data Processing, and Analysis.
- 2015 Ghorka Nepal Earthquake (June-July 2015). Coordination, Data Processing, and Analysis.
- 2010-2011 Canterbury Earthquake Sequence, Christchurch, New Zealand. (June 2014), Coordination, Ground-based Lidar Field Team, Data Processing, and Analysis.
- 2011 Great East Japan Earthquake and Tohoku Tsunami (June 2011). Coordination, Data Processing, and Analysis.
- 2010 Chile Earthquake Tsunami Reconnaissance Team, (April 17-25, 2010). Coordination, Ground-based Lidar Field Team, Data Processing, and Analysis.
- Operation GEO-CAN (Global Earth Observation – Catastrophe Assessment Network), Haiti Damage Needs Assessment for the World Bank, Liquefaction and Ground Failure (March 17, 2010)
- Operation GEO-CAN (Global Earth Observation – Catastrophe Assessment Network), Haiti Damage Needs Assessment for the World Bank, Structural Damage Assessment (January 22, 2010)
- September 29, 2009 Samoan Tsunami, American Samoa (October 4-12, 2009), Geo-Extreme Events Reconnaissance. Ground-based Lidar Field Team, Data Processing, and Analysis.

TEACHING

Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CE361-012	Surveying Theory (Lab only)	Fall 2009	4	25
CE505	Digital Terrain Modeling	Winter 2010	3	13
CE573	Earth Structures	Spring 2010	4	15
CE505	R&C Least Squares Adjustments	Fall 2010	1	2
CE505\562	Digital Terrain Modeling	Winter 2011	3	19
CE573	Earth Structures	Spring 2011	4	17
CE405/505	Building Information Modeling	Spring 2011	3	10

CE505\566	3D laser scanning and imaging	Fall 2011	3	8
CE562	Digital Terrain Modeling	Winter 2012	4	18
CE573	Seepage and Consolidation*	Spring 2012	4	10
CE505\566	3D laser scanning and imaging	Fall 2012	3	8
CE562	Digital Terrain Modeling	Winter 2013	4	8
CE202	Geospatial Information and GIS	Spring 2013	3	41
CE505\566	3D laser scanning and imaging	Fall 2013	3	7
CE202	Geospatial Information and GIS	Winter 2014	3	57
CE562	Digital Terrain Modeling	Winter 2014	4	16
CE505\566	3D laser scanning and imaging	Fall 2014	4	10
CE562	Digital Terrain Modeling	Winter 2015	4	14
CE202	Geospatial Information and GIS	Spring 2015	3	53
CE505\566	3D laser scanning and imaging	Fall 2015	4	9
CE562	Digital Terrain Modeling	Winter 2016	4	5
CE202	Geospatial Information and GIS	Winter 2016	3	54
CE507	Graduate Seminar	Spring 2016	1	53
CE507	Geomatics Seminar	Spring 2016	1	14
CE566	3D laser scanning and imaging	Fall 2016	4	20
CE507	Geomatics Seminar	Fall 2016	1	12
CE568	Least Squares Adjustments	Winter 2017	3	6
CE507	Geomatics Seminar	Winter 2017	1	8
CE202	Geospatial Information and GIS	Spring 2017	3	58
CE566	3D laser scanning and imaging	Fall 2017	4	13
CE507	Geomatics Seminar	Fall 2017	1	8
CE566	3D laser scanning and Imaging	Fall 2018	4	17
CE507	Geomatics Graduate Seminar	Fall 2018	1	10
CE562	Digital Terrain Modeling	Winter 2019	4	10
CE365	Highway Location and Design [#]	Winter 2019	3	116
CE406	Projects: Control Networks	Spring 2019	1	4
CE566	3D Laser scanning and imaging	Fall 2019	4	14
CE507	Geomatics Graduate Seminar	Fall 2019	1	9
CE365	Highway Location and Design	Spring 2020	3	28
CE566	3D laser scanning and imaging*	Fall 2020	4	14
CE507	Geomatics Graduate Seminar	Fall 2020	1	12
CE566	3D laser scanning and imaging*	Fall 2021	4	12
CE507	Geomatics Graduate Seminar	Fall 2021	1	11
CE562	Digital Terrain Modeling*	Winter 2022	4	12
CE365	Highway Location and Design [#]	Winter 2022	3	70
CE365	Highway Location and Design [#]	Spring 2022	3	34
CE562	3D laser scanning and Imaging*	Fall 2022	4	13

*Co-taught with Dr. Ezra Che

#Co-taught with Mr. Chase Simpson

Course Development

- CE365. Highway Location and Design (3). Redesign of the course to (1) incorporate modern construction automation practices, (2) utilize software and lidar terrain data for the design project, and (3) quizzes instead of midterms. Also created a blended learning version of the course starting in Spring 2022.
- CE 566. 3D laser scanning and imaging (4). Newly developed course at OSU related to principles, operations, applications, and analysis using 3D laser scanning technology.
- CE 562. Digital Terrain Modeling (4). Newly developed course at OSU using lidar data and writing C++ code to generate DTMs. Students from several departments across the campus have taken this interdisciplinary course. In Spring 2023 Introduced a 3 credit hour version of the course.
- CCE 405/505 Building Information Modeling. Newly developed course to use state of the art BIM software for engineering and construction analysis.
- CE 505 Reading and Conference: Least squares adjustments. Course developed to teach least squares procedures to adjust survey data. Course later developed by DT Gillins into CE568.

Non-Credit Courses and Workshops*

- "Lidar data processing for seacliff erosion studies," July 2015. Scripps Institution of Oceanography.
 - "Lidar technology for surveying and mapping," March 2015. OSU Geomatics Workshop Series. 7 hrs. Co-taught with Christopher Parrish.
 - "How to lidar," August 11-15, 2014, OSU.
 - "Practical Applications of lidar," Feb 21, 2013, OSU Geomatics Workshop Series. 7 hours.
 - "Basics of GPS," Feb 7, 2013, OSU Geomatics Workshop Series. Co-taught with Mark Armstrong. 7 hours
 - "Practical Applications of lidar," Feb 17, 2012, OSU Geomatics Workshop Series. 7 hours.
 - "Basics of GPS," Feb 2, 2012, OSU Geomatics Workshop Series. Co -taught with Mark Armstrong (ODOT\NGS). 7 hours.
 - "Basics of GPS," Feb 10, 2011, OSU Geomatics Workshop Series. Co-taught with Mark Armstrong (ODOT\NGS). 7 hours.
 - "Basics of lidar scanning," Feb 18, 2010, OSU Geomatics Workshop Series. 7 hours.
- *Note that these are all new workshops that I either developed or co-developed, as indicated.*

Miscellaneous seminars, and lectures at OSU and other institutions

1. *Invited guest lecture*, The NHERI RAPID Facility: Enabling the next-generation of natural hazards reconnaissance, EERI Student Chapter Meeting, OSU (April 25,2019).
2. *Invited guest lecture*, Photo, rock, lasers: Analysing rockfall activity with lidar and/or photogrammetry, University of Oregon (April 9, 2019).
3. *Invited guest lecture*, Cascadia Subduction Zone hazards and seismically induced landslide hazard mapping, GEO 565 (Nov. 19, 2015).
4. *Invited guest lecture*, Cascadia Subduction Zone hazards and seismically induced landslide hazard mapping, CE411 Ocean Engineering (Nov. 11, 2015).
5. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2015).
6. *Invited seminar*, Three fancy algorithms for landslide detection using various forms of lidar data (with a side explanation of the USGS 3D elevation plan). Geomorphology Brown Bag seminar series, Oregon State University, (March 3, 2015)

7. *Invited Seminar*, Lighten Everyone's Load: Lidar Applications to Support Engineers, Planners, Scientists, and More. Portland State University, TREC Seminar.
8. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2014).
9. *Invited guest lecture*, Condition Assessment Technologies, CE520- Special Topics: Condition Assessment and Repair of Reinforced Concrete (May 23, 2014).
10. *Invited Seminar*, Geomatics in Geology, Portland State University Geology Dept. (February 25, 2014).
11. *Invited Seminar*, Dotting the coast: Strategies and considerations when using lidar data for coastal studies, Geology and Geophysics CEOAS seminar series, Oregon State University, (November 14, 2013).
12. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2013).
13. *Invited Presentation*, 3D laser scanning (lidar) applications, Oregon State University ACSM student chapter meeting, (November 2013).
14. *Invited Seminar*, Using lidar to study seacliff erosion\coastal landslides, Geomorphology Brown Bag seminar series, Oregon State University, (April 10, 2012)
15. *Invited Presentation*, 3D laser scanning (lidar) applications and demonstration, Oregon State University ACSM student chapter meeting, (November 2012).
16. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2012).
17. *Invited Presentation*, 3D laser scanning (lidar) applications and demonstration, Oregon State University American Congress of Surveying and Mapping (ACSM) student chapter meeting, (November 9, 2011).
18. *Invited*, Slope stability monitoring, CE 570 Shear Strength and Slope Stability Course, Oregon State University, (January 18, 2011)
19. *Invited*, 3D laser scanning (lidar) applications and demonstration, Oregon State University ACSM student chapter meeting, (October 20, 2010). Co-presented with Evon Silvia.
20. ***Invited Demonstration and Lecture***, *3D laser scanning in Geology*, University of Oregon (Field demonstration: May 15, 2010; Lecture: May 21, 2010)
21. *Invited Seminar*, Multi-disciplinary investigation of the 2010 Maule Chile Earthquake and Tsunami, Oregon State University (May 17, 2010). Co-presented with Solomon Yim.
22. ***Invited Demonstration***, *Using terrestrial laser scanning for seacliff erosion studies*, Oregon State University, (February 6, 2010)
23. *Invited*, Coastal erosion and damage modeling using Terrestrial Laser Scanning, University of California, San Diego (November 16, 2009)
24. ***Invited Lecture***, Documenting the 2009 American Samoa Tsunami with LIDAR, CE 415/515 Coastal Infrastructure, Oregon State University, (November 10, 2009)
25. ***Invited Presentation***, LIDAR based damage assessment of the 2009 American Samoa tsunami, Oregon State University, Industry Advisory Board meeting, (October 30, 2009)
26. American Samoa Tsunami Reconnaissance by GEER, special lecture, Oregon State University, (October 21, 2009).
27. *Invited*, Some applications of 3D laser scanning (AKA lidar), Oregon State University ACSM student chapter meeting, (October 14, 2009)

28. Fall 2009 several lectures for CE571 Foundation Engineering.
29. *Invited*, Geomatics – a quantitative link between process and product, Oregon State University, (April 1, 2009)
30. **Invited Demonstration and Lecture**, Hiperspace: Development and applications of a multi-tile display wall/ potential careers in science and engineering, CALIT2, UCSD (January 28, 2009)
31. **Invited Lecture**, Non-destructive, forensic analysis using terrestrial laser scanning, Seminar on Forensics Engineering, University of California, San Diego, (October 16, 2008)
32. Terrestrial laser scanning to understand seacliff erosion and a whole lot more, Research recruitment seminar for undergraduate students (October 15, 2008)
33. **Invited Lecture**, Geologic applications of terrestrial laser scanning, Co-presented with Elizabeth Johnstone, Scripps Institution of Oceanography, (April 30, 2008)

ADVISING

Graduate Advisees – Completed

Student	Degree	Thesis	Graduated	Employment
1. Carly Loving <i>*co-advised with Andre Barbosa</i>	MS	<i>Influence of Uncertainties in Terrestrial Laser Scanning on Structural Reliability and Bridge Load Rating</i>	Winter 2022	David Evans & Associates
2. Eve Lathrop <i>*Co-advised with Armin Stuedlein</i>	MS	<i>Regional and Site-Specific Vulnerabilities of the Western Power Grid from a M9.3 Cascadia Subduction Zone Earthquake</i>	Summer 2021	GRI
3. Kat Shaefer/Holtan <i>*co-advised with Ben Leshchinsky</i>	MS	<i>Assessing Seismic Rockfall Impacts on Mobility in Transportation Corridors.</i>	Spring 2021	<i>David Evans and Associates</i>
4. Ben Babel* <i>*co-advised with Chris Parrish (CCE)</i>	MS	<i>An Efficient Workflow and Accuracy Assessment for ICESat-2 and Multispectral Imagery Fusion for Bathymetric Mapping</i>	Spring 2020	Dewberry
5. Michael Bunn* <i>*co-advised with Ben Leshchinsky</i>	PhD	<i>Improving Region-Scale Landslide Inventory and Susceptibility Mapping</i>	Summer 2019	Cornforth Engineering\Landslide Technology
6. Marian Jamieson	MS	<i>Investigation of Multi-constellation RTK GNSS Survey Productivity and Coordinate Accuracy</i>	Spring 2019	AKS Engineering
7. Ezra Che	PhD	<i>An Efficient Point Cloud Processing Framework for Terrestrial and Mobile Lidar Data via Reconstructing the Scan Pattern Grid</i>	Summer 2018	Assistant Professor (Senior Research), Oregon State University

8. Suzanna Shakya* *Co-advised with Tracy Arras.	MS	<i>Lidar-based Post-earthquake Pavement Damage Classification System</i>	Summer 2018	Skansa
9. Ezra Stockton *co-advised with Ben Leshchinsky	MS	<i>Stability of Heterogeneous and Anisotropic Slopes Determined by the Compound Logarithmic Spiral Limit Equilibrium Method</i>	Spring 2018	-
10. Matt O'Banion	PhD	<i>Rigorous 3D point cloud quality assessment</i>	Fall 2017	Associate Professor at West Point Academy
11. Mahyar Sharifi-Mood *co-advised with Daniel Gillins (CCE)	PhD	<i>Probabilistic Geospatial Analysis, Uncertainty Modeling, and Mapping of Seismically-induced Ground Failures</i>	Spring 2017	Research Scientist at UT Austin Currently at Surveying and Mapping, SAM, Inc
12. Mahsa Allahyari	MS	<i>Accuracy Evaluation of Real-Time GNSS Survey Observations</i>	Fall 2016	Surveying and Mapping, SAM, Inc.
13. Matt O'Banion	MS	<i>GeoMat VR: An immersive virtual reality system with applications in Civil Engineering and Geomatics.</i>	Winter 2016	Continued as PhD student at OSU Associate Professor at West Point Academy
14. Patrick Burns* *co-advised with Andre Barbosa (CCE)	MS	<i>Multi-hazard vulnerability assessment of bridges: Case study and sensitivity analysis for the state of Oregon.</i>	Summer 2015	Magnusson Klemencic Associates
15. Hamid Mahmoudabadhi	PhD	<i>Implementing High Dynamic Range (HDR) photography to improve 3D laser scanning point cloud visualization and segmentation</i>	Summer 2015	Trimble Geomatics
16. Rubini Santhana Mahalingam	PhD	<i>Analysis of spatial data from terrain models for landslide predictive mapping</i>	Spring 2014	Risk Management Solutions Pitney Bowes
17. John Raugust	MS	<i>Structure from Motion: An Analysis of Terrestrial Applications (Project)</i>	Spring 2014	AKS Engineering
18. Jeremy Conner	MS	<i>Quantification of landslide movement in a forested environment</i>	Spring 2013	West Point Academy

19. Mahyar Sharifi-Mood	MS	<i>Probabilistic Analysis and Mapping of Seismically Induced Landslide Deformation in Oregon</i>	Spring 2013	Continued as PhD student at OSU Research Scientist at UT Austin Currently at Surveying and Mapping, SAM, Inc
20. Abby Chin	MS	<i>Paving the Way for Terrestrial Laser Scanning Assessment of Road Quality</i>	Spring 2012	AECOM
21. Keith Williams	MS	<i>Accuracy Assessment of lidar Point Cloud Geo-Referencing</i>	Spring 2012	UNAVCO
22. Evon Silvia	MS	<i>Overcoming the Level Bubble: Terrestrial Laser Scanning Reference Frame Transformations</i>	Spring 2011	Watershed Sciences/Quantum Spatial/NV5 Geospatial
23. Tony Rikli	MS	<i>Evaluation of Straw Wattle Placement and Surficial Slope Stability</i>	Spring 2011	PBS Engineering and Environmental Inc

Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Andrew Senogles [#]	PHD	Winter 2023
2. Gulay Sayim	MS	Winter 2023
3. Fatih Sen [%]	MS	Winter 2023
4. Maria Krivova [*]	PHD	Summer 2023
5. Dae Kun Kang ^{&}	MS\PHD	Summer 2024
6. Sanjaya Paudel	PhD	Summer 2025
7. Mohsen Armand [!]	PhD	Summer 2025
8. Bryce Berrett [#]	PhD	Summer 2024
9. Petyon Pressler [#]	MS	Spring 2023
10. Caleb Ogbeta	PhD	Summer 2026

#co-advised with Dr. Ben Leshchinsky (COF, CCE)

*co-advised with Dr. Merrick Haller (CCE)

^co-advised with Dr. Armin Stuedlein (CCE)

&co-advised with Dr. Erica Fischer (CCE)

%co-advised with Dr. Ezra Che (CCE)

!co-advised with Dr. Jaehoon Jung (CCE)

Graduate Thesis or Project Committees

MEng Advisor:

Graduated

1. Cody Mitchell-Skinwalker, MENG, 2012, Construction Engineering Management, *Minor Advisor*.

Current

1. Marwin Suwanprapa, MENG

Committee Member:*Graduated*

1. Kyle Herrera, 2022, MS, Civil Engineering, Geomatics
2. Selina Lambert, 2022, MS, Civil Engineering, Geomatics
3. Joan Herrmann, 2022 MS, Civil Engineering Geomatics
4. Meshal Alshammari, 2021, MS, Civil Engineering, Geomatics
5. Ziyu Jie, 2021, PhD, Construction Engineering Management
6. John Cary, 2021, MS, Civil Engineering, Geotechnical
7. Nick Mathews, 2021, PhD, Civil Engineering, Geotechnical
8. Ziyu, Jin, 2021, PhD, Civil Engineering, Construction
9. Amalesh Jana, 2021, PhD, Geotechnical Engineering
10. William Stark 2020, MS, EECS
11. Victoria Dutille, 2020, MS, Civil Engineering, Geotechnical
12. Richie Slocum, PhD, 2020, Civil Engineering, Geomatics
13. Hoda Tahami, PhD, 2020, Civil Engineering, Geomatics
14. Majid Farahani, MS, 2019, Civil Engineering, Geomatics
15. Nick Forfinski-Sarkozi, PhD, 2019, Civil Engineering, Geomatics
16. Zach Barlow, PhD, 2019, Civil Engineering, Transportation
17. Alireza Mostafizi, PhD, 2019, Civil Engineering, Transportation, CCE
18. Nisha Puri, PhD, 2019, Construction Engineering Management
19. Zhenhuan Chen, MS, 2019, Computer Science
20. Michael Dennis, PhD., 2018, Civil Engineering, Geomatics
21. Chase Simpson, MS, 2018, Civil Engineering Geomatics
22. Blaine Wruck, MS, 2018, Civil Engineering, Materials\Geomatics
23. Shangjia Dong, PhD, 2018, Civil Engineering, Transportation
24. Masoud Ghodrat Abadi, PhD, 2018, Civil Engineering, Transportation
25. Farid Javadnejad, PhD, 2017, Civil Engineering, Geomatics
26. Marissa Rauthause, MS, 2017, Civil Engineering, Geotechnical
27. Ramiro Aragon, MS, 2017, Masters of Natural Resources, College of Forestry
28. Nicholas Wilson, MS, 2017, Civil Engineering, Geomatics
29. Kato Kengo, PhD., 2017, Civil Engineering, Geotechnical
30. Kory Kellum, MS, 2017, Civil Engineering, Geomatics
31. Brian Weaver, MS, 2017, Civil Engineering, Geomatics
32. Matthew Gillins, MS, 2016, Civil Engineering, Geomatics
33. Daniel Hess, MS, 2016, Civil Engineering, Geotechnical
34. Michael Bunn, MS, 2016, Civil Engineering, Geotechnical
35. Michael Eddy, MS, 2015, Civil Engineering, Geomatics
36. Vahid Rashidan, MS, 2015, Civil Engineering, Geotechnical & Geomatics
37. Darren Kerr, MS, 2015, Civil Engineering, Geomatics
38. Justin Neill, MS, 2014, Civil Engineering, Transportation
39. Tracy Arras, PhD., 2014, Water Resources Engineering
40. Storm Beck, MS., 2014, Forest Engineering, Civil Engineering, Transportation.
41. Seth Reddy, PhD., 2014, Civil Engineering, Geotechnical
42. Mohsen Azadbakht, PhD., 2013, Civil Engineering, Structural
43. Michael Ewald, MS, 2013, Marine Resource Management

44. Kyle Romney, MS, 2013, Civil Engineering, Geotechnical
45. Tadesse Meleske, PhD., 2013, Civil Engineering, Geotechnical
46. Jessica Young, MS, 2012, Civil Engineering, Geotechnical
47. Andrew Strahler, MS, 2012, Civil Engineering, Geotechnical
48. Michael Craven, MS, 2011, Forest Engineering
49. Murat Monkul, PhD., 2010, Civil Engineering, Geotechnical
50. James Michael Eller, MS, 2010, Civil Engineering, Geotechnical

Current

1. Yiye Xu, PhD, Construction Engineering Management
2. Tifong Chin, PhD, Geotechnical, Civil Engineering
3. Matthew Sharr, MS, Geomatics, Civil Engineering

Graduate Council Representative:

1. Tieqiao Wang, (current), Computer Science, EECS
2. Anna Nickelson, (current), PhD, Robotics, MIME
3. Victoria Moreno, (current) MS, Geology, CEOAS
4. Katherine Nicolato, (current), MS, Forestry
5. Robert Brown, MS, 2022, MIME
6. Braxton Cueno, PhD, 2022, Computer Science
7. Ben Roberts-Pierel, PhD, 2021 Geography, CEOAS
8. Robert DeBertoli, PhD, 2021 Robotics, MIME
9. Ellen Lamont, PhD, 2021, Geology, CEOAS
10. Alper Dumanit, PhD, 2021, Robotics, MIME, *(Program of Study and Prelim Exam only)*
11. Austin Whitesell, PhD, Current, Robotics, MIME
12. Sean Carroll, PhD, Current, Anthropology
13. Alex Wiggins, PhD, Current, Electrical and Computer Engineering
14. John Trimble, PhD, Current, Geology, CEOAS
15. Paulo Murillo Sandoval, PhD, 2020, Geography, CEOAS
16. Jeff Caley, PhD, 2019, Robotics, MIME
17. Nick Cohn, PhD., 2018, CEOAS
18. Dimitris Trigkakis, PhD/MS, 2017, Computer Science
19. Celio Sousa, PhD, 2017, Forest Ecosystems and Society
20. Dan Lazewatsky, PhD, 2015, Robotics, MIME
21. Jennifer DiGiulio, MS, 2015, Geology, CEOAS
22. Nick Arnold, MS, 2015, Geography, CEOAS
23. Charles Preppernau, MS, 2013, Geography, CEOAS
24. Adam Lindsley, MS, 2014, Soil Science.
25. Arwa Hamid, MS, 2013, EECS
26. Ronghua Ni, PhD., 2013, EECS
27. Nicolas Legg, MS, 2013, Geosciences
28. Sanchit Karve, MS, 2012, Computer Science
29. Brian King, MS, 2012, Computer Science
30. Brian Wing, PhD., 2012, Forest Engineering
31. Jennifer Inouye, MS, 2012, Computer Science
32. Nadia Payet, PhD, 2011, Computer Science
33. Roxanne Hastings, MS, 2011, CEOAS
34. Vivienne Ng, MS, 2010, EECS
35. Jongbum Ryou, PhD, Prelim Exam Only, EECS

Undergraduate Research Assistants

1. Cierra Eby (Winter-Spring 2011)
2. Amanda Olson (Winter-Spring 2011)
3. John Raugust (Fall 2011)
4. Martha McAlister (Spring 2014-Spring 2015)
5. Katherine Lanfri (Fall 2014-Winter 2017)
6. Catherine Burchard (Spring 2015- Spring 2017)
7. Lucas Viana (Summer 2015)
8. Gabriel Cambraia Gomes de-Melo (Summer 2016)
9. Keava Campbell (Summer 2016, SURF – *co-advised with Ben Leshchinsky*)
10. Katherine Shaefer (Summer 2017, SURF)
11. Joseph Greenwood Fall 2017-2018)

Undergraduate Thesis Advisor

1. *Katherine Lanfri, International Thesis, Winter 2017.*
2. *Eve Lathrop, Honor's Thesis, Winter 2020*

Undergraduate Honors Thesis Committee Member

1. Marian Jamieson, Spring 2017.
2. Aiden Solven, 2019

Postdoctoral Trainees

1. Ezra Che (Fall 2018-2020)
2. Jaehoon Jung (Winter 2017-2020)
3. Alireza Kashani (Fall 2014-Summer 2016)

Other Advising

- External Examiner, Mr. Hieu Ngyuen, Yonseei University (Fall 2022).
- External Examiner, Zahra Hadavand, Geomatics Engineering, University of Calgary
- External Examiner, Mostafa Arastounia, Geomatics Engineering, University of Calgary
- Tau Beta Pi
 - Faculty Advisor (representing CCE), 2010-2020.
 - Chief Advisor, 2020-Present
- Computer Science Capstone Project Mentor
 1. Tim Shoaf, Jon Neuneker, James Prestwood, "Advanced 3D imaging tools," 2011-2012
 2. Chris (Huang Lap) On, Lewis Valentine, "Lidar data management system," 2011-2012
 3. Alfred Flammana, Rebecca Pankow, Andrew Johnson, "Real-time laser scanner change analysis," 2010-2011.
 4. Justin Durham, William Fellows, "3D laser scanning tools", 2010-2011

INDUSTRY PARTNERSHIPS

- 2009 to present. Leica Geosystems/David Evans and Associates/Oregon State University Partnership. Served as OSU's representative in this strategic partnership which results in over \$1.5 million in software and equipment donations annually to Oregon State University.

SERVICE ACTIVITIES***Journal Editorships***

- Editor in Chief, *ASCE Journal of Surveying Engineering*, 2015-present
- Associate Editor, *ASCE Journal of Surveying Engineering*, 2012-2015
- Editorial Board, *ASCE Journal of Surveying Engineering*, 2011-2012
- Guest Co-Editor, *International Journal of Applied Earth Observation and Geoinformation, Special Issue: Advances in Mobile Mapping Systems for Urban Digital Twins*. Edited by Heidar Rastiveis, Michel J. Olsen, Lingli Zhu, Lingfei Ma, Andrea Masiero.

Professional Membership and Leadership Roles

- American Society of Civil Engineers (ASCE), Utilities Engineering and Surveying Institute (UESI), Publications Committee (2015-present)
- American Society of Civil Engineers (ASCE) Geomatics Division: Executive Committee (2011-2015)
 - Vice-Chair (2013-2015)
 - Secretary (2011-2013)
 - Member (2019-present)
- ASCE Geomatics Division: Spatial Data Applications Committee (2010-2015)
 - Chair (2011-2013)
- International Association of Geodesists
 - Co-Chair, Sub-Commission 4.2, Geodesy in Geospatial Mapping and Engineering
- Chi Epsilon Civil Engineering Honor Society,
 - Utah Alpha Chapter Marshall: 2004
 - Utah Alpha Chapter President: 2004-2005
- Tau Beta Pi Engineering Honor Society
 - Oregon State University Chapter Advisor for CCE: 2010-present
- American Society of Photogrammetry and Remote Sensing (ASPRS)
- Surveying and Geomatics Educator Society (SaGES)
 - Past President (2022-2025)
 - President (2019-2022)
 - President-Elect (2017-2019)
 - Director (2017)
 - Conference Committee (2013-2017)
- Earthquake Engineering Research Institute (EERI)
- Geo-Engineering Extreme Event Reconnaissance (GEER)
- Professional Land Surveyors of Oregon (PLSO) Special Member
- Center for Interdisciplinary Science for Art, Architecture, and Archaeology (CISA3), 2007-2009

Conference, Short-Course and Workshop Organization

- Organizing Committee, TVWD Lifelines Meeting, December 2022.
- Organizing Committee, Surveying and Geomatics Educators Society Conference, Virtual Conference, (August 2022) + Moderator, Nexus of the professions, education, and accreditation.
- Organizing Committee and Module Instructor. NHERI Rapid User Intensive Training. Co-Lead: Surveying, laser scanning, CAVE, and mobile mapping modules. July 2022. Seattle Washington.
- Organizer and Co-Instructor. NHERI RAPID Facility Field Instrumentation Training Workshop, 12 National Conference on Earthquake Engineering, EERI, Salt Lake City, UT. (June 2022).
- Organizing Committee, 2nd Workshop and Challenge on Computer Vision in the Built Environment, Hybrid Virtual and New Orleans, Louisiana, June 19, 2022.

- Organizing Committee, TVWD Lifelines Meeting, May 2022.
- Co-Organizer and Moderator, Cascadia Region Lifelines Sessions Lifelines Sessions A-C, The San Fernando Earthquake Conference – 50 years of Lifeline Engineering (Lifelines2021-2022), “Understanding, Improving & Operationalizing Hazard Resilience for Lifeline Systems”, (February 2022). Co-moderated and Organized with Yumei Wang.
- Organizing Committee and Module Instructor. NHERI Rapid User Intensive Training. Co-Lead: Surveying, laser scanning, CAVE, and mobile mapping modules. July 2021. Seattle Washington.
- Organizing Committee, 1st Workshop and Challenge on Computer Vision in the Built Environment, Virtual, June 2021.
- Scientific Committee, ISPRS Geospatial Week, Laser Scanning, June 2019, Enschede, The Netherlands.
- “Introduction to point cloud processing and applications for damage assessment.” Short Course on the Advances in Machine Vision, Point-Cloud Modeling, Augmented Reality, and Artificial Intelligence for Structural Health Monitoring and Nondestructive Evaluation. EVACES 2019, International Conference on September 2019, Nanjing, China. Co-Organizer and taught a 1.5 hour module.
- “Rapid facility equipment overview and hands-on demonstration of data collection and processing.” NHERI Oregon State University Experimental Facility and RAPID Joint Workshop, July 31-Aug 1, 2019. Co-presented with Jennifer Irish.
- Organizing Committee and Module Instructor. NHERI Rapid User Intensive Training. Surveying and laser scanning modules. July 2019. Seattle Washington.
- “Lidar post-earthquake field reconnaissance demonstrations.” EERI Learning from Earthquakes New Zealand Travel Study, May 2019.
- “Advanced Point Cloud Segmentation and Feature Extraction Techniques,” Session at the 60th Annual Professional Land Surveyors of Oregon. Co-taught with Drs. Ezra Che and Jaehoon Jung. 1/17/2019. 3 hrs.
- Assessing Coding and Marking of Highway Structures in Emergency Situations, December 2018. Honolulu Hawaii. (5 workshops co-taught with Marc Veletzos, Andre Barbosa, and Gene Roe).
- NHERI Rapid User Intensive Training. Surveying and laser scanning modules. July 2018. Seattle Washington.
- “Cascading Hazards in the Cascades: The Oregon Hazard Explorer for Lifelines Program (O-Help) Web GIS,” Presentation at the Cascadia Resilience Engineering Short Course, July 14, 2016.
- SaGES 2017, Surveying and Geomatics Educators Society Conference, Corvallis, OR. July 30-August 3, 2017. Lead Organizer.
- Technical Committee, International Workshop on Computing In Civil Engineering, IWCCE 2017, ASCE Computing Division, Seattle Washington, June 2017.
- Co-Organizer, NHERI Rapid Center User Needs Workshop, Seattle, Washington, January 26-27, 2017.
- “Assessing, Coding, and Marking of Highway Structures in Emergency Situations,” Feb. 29- March 1, 2016. Irvine, CA. Co-taught with Andre Barbosa and Gene Roe. Hosted by the National Academies of Sciences, Transportation Research Board.
- Scientific Committee, International Conference on Sustainable Design, Engineering and Construction, ICSDEC 2016. Tempe Arizona, (May 20, 2016).
- SaGES 2015 Conference Organization Committee Member
- “Guidelines for the use of mobile lidar in transportation applications, Dec. 7, 2015. Mobile Mapping Technology Conference, Sydney, Australia. 3 hrs.

- FHWA Every Day Counts 3 (EDC-3) Regional Summit, Innovation Session on 3D Engineered models, Schedule, Cost, and Post-Construction, St. Louis, MO, October 23-24, 2014.
- Session Co-Organizer, Remote Sensing Technologies for Seismic Hazard Mapping and Post-disaster Response, Earthquake Engineering Research Institute (EERI), 10th National Conference on Earthquake Engineering (10NCEE)
- Workshop: “Practical Applications of lidar,” June 22, 2012, ASCE, Washington DC. Co-developed and co-taught with Ron Singh, Gene Roe, and Brett Rose, Anthony Patruzzi. 8 hours.
- Workshop: “Lidar to machine,” April 15, 2013, ASCE Workshop at SPAR International, Colorado Springs, CO. Co-developed and co-taught with Ron Singh (ODOT) and Gene Roe (lidarnews.com). 4 hours.
- Workshop: “Lidar for slope-stability,” March 3, 2013, ASCE GeoCongress, San Diego, CA. 8 hours.
- Workshop: “Mobile lidar: Theory to Practice,” April 14, 2012, ASCE Workshop at SPAR International, The Woodlands Texas. Co-developed and co-taught with Ron Singh and Gene Roe. 4 hours.

Review Service

Proposals

- National Science Foundation, Switzerland.
- NSF Proposal Review Ad-hoc Reviewer CMMI, CISE
- NSF Proposal Review Panel, Cyber-enabled Discovery and Innovation (CDI)
- NSF Proposal Peer Review Pilot Study 2014, Sensors and Sensing Systems
- The National Center for Transportation Systems Productivity and Management (NCTSPM)

Journals

- Journal of Computing in Civil Engineering, ASCE
- Journal of Geotechnical and Geo-Environmental Engineering, ASCE
- Journal of Disaster Research
- Journal of Surveying Engineering, ASCE
- Journal of Photogrammetric Engineering and Remote Sensing, ASPRS
- Journal of Photogrammetry and Remote Sensing, ISPRS
- Journal of Field Robotics, Wiley
- Geotechnical Testing Journal, ASTM
- Automation in Construction, Elsevier
- Bulletin of the Seismological Society of America, SSA
- Environmental Fluid Mechanics
- Geomatics, Natural Hazards and Risk, Taylor and Francis
- Geomorphology, Elsevier
- Geophysical Journal International
- Journal of Applied Geodesy
- Journal of Selected Topics in Applied Earth Observations and Remote Sensing, IEEE
- International Journal of Geo-information, ISPRS
- Infrastructures, MDPI
- Journal of Sensors, MDPI
- Lasers in Engineering
- Journal of Building Engineering
- Measurements, Elsevier
- Mountain Science
- Remote Sensing, MDPI

- Sensors, MDPI
- Soil Dynamics and Earthquake Engineering, Elsevier
- Transportation Letters: The International Journal of Transportation Research
- Transportation Research Part C: Emerging Technologies, Elsevier.
- Earth Science Reviews, Elsevier
- The Photogrammetric Record, Elsevier

Conferences

- ASCE TD&I Conference
- ASCE Lifelines Conference
- TRB Annual Meeting
- ASCE Forensics Conference
- ASCE Geo-Congress Conference
- ASCE Pipelines Conference
- Performance-Based Design Conference
- ASCE IWCEE Conference
- ISRPS Geospatial Week/Laser Scanning

Technical Committees

- Oregon Coordinate Reference System (OCRS) technical development team (2010)
- Utah Liquefaction Advisory Group (ULAG) (2004-2009)

University Service

Search Committees

- Faculty Search Committee, Geomatics, (2016-2017)
- CCE Non-Destructive Evaluation and Testing Search Committee (2015-2016).
- Faculty search committee, Geospatial Analytics Visiting Professor CEOAS (2015-2016)
- Faculty search committee, Geo-visualization CEOAS (2015-2016)
- Staff Search Committee, CCE Public Relations Representative (2015)
- Faculty search committee, Marine Geomatics Engineering (2014-2015)
- Faculty search committee, Geomatics Engineering (2013-2014)
- Geo-intelligence and Planning Director search committee (2012)
- Faculty search committee, Geomatics Engineering (2011-2012)
- CCE Interim School Head Search Committee (2011)
- Faculty search committee, Geotechnical Engineering (2010-2011)

Committees

- CCE Teaching Evaluation Committee (2021-2022)
- CCE Teaching Evaluation Committee (2015-2016)
- CCE Strategic Planning Committee (2015-2016)
- COE Awards Committee (2013-2014)
- CCE Graduate Committee (2011-2013, 2014-2015)
- CCE Computer and Facilities committee (2009-2011)

P&T Ad-Hoc Committees

- Bryson Robertson, CCE Promotion and Tenure Committee (2021-2022)

- Jihye Park, CCE Promotion and Tenure Committee (2021-2022)
- Chris Parrish, CCE Promotion and Tenure Committee (2021-2022)
- Yelda Turkan, CCE Promotion and Tenure Committee (2020-2021)
- H. Benjamin Mason, CCE Promotion and Tenure Committee (2016-2017)
- Daniel T Gillins CCE Mid-Tenure Promotion and Tenure Committee (2016)
- T. Matthew Evans CCE Promotion and Tenure Committee (2015-2016)
- Yelda Turkan, CCE Mid-Tenure Promotion and Tenure Committee (2019)
- Chris Parrish, CCE Promotion and Tenure Committee (2019-2020)

Mentor

- Meagan Wengrove, 2018-present.

Events\Tours

- Geomatics Open House, November 2022.
- Geomatics Demonstration, Engineers Without Borders, October 2016.
- Faculty Representative, CCE Spring Fling, 2014, advising event for students completing their first year in Engineering.
- Various laboratory tours, presentations, and demonstrations for visitors (>25, 2009-present)

Other

- UCGIS Delegate (2015-2020)
- UCGIS Alternate Delegate (2014-2015, 2020-present)
- Provost cluster hire proposal (Geo-intelligence and planning certificate program) development team (2014)
- CCE Geomatics Group Coordinator (2009-2015)
- GIS Science Faculty Representative for CCE (2009-present)
- Provost cluster hire proposal (Geo-intelligence and planning certificate program) development team (2012).
- Faculty representative and laboratory demonstration, CCE graduate recruitment weekend, 2010-present, several times).

Service to the Public

Outreach Activities

- SESEY- Summer Experience in Science and Engineering for Youth (July 2022)
- Geomatics demonstrations, AGC/Willamette Promise Teacher Externship Day (August 2020- Virtual)
- Geomatics demonstrations, AGC/Willamette Promise Teacher Externship Day (August 2019)
- SESEY- Summer Experience in Science and Engineering for Youth (July 2019)
- SESEY- Summer Experience in Science and Engineering for Youth (July 2018)
- SESEY- Summer Experience in Science and Engineering for Youth (July 2017)
- Geomatics demonstrations, AGC/Willamette Promise Teacher Externship Day (August 2017)
- Geomatics demonstrations, Science and Math Investigative Learning Experiences (SMILE), HJ. Andrews Experimental Forest, June 2016. (Coordination only).
- Lidar: Applications in Geology. Presentation and field demonstration. GeoGirls, Mt. St Helens, Washington, August 6, 2015.
- Leshchinsky, B., & Olsen, M.J. Landslides: Has the Earth Moved and Will it Move Again? Academy for Lifelong Learning, Corvallis, OR. May 12, 2015.
- Exploring Engineering Careers: Civil Engineering, Engineering Awareness (January 14, 2015).

- Louis Stokes Alliance for Minority Participation (LSAMP), Transportation Camp, Survey demonstrations and activities, June 2014. (Helped coordinate, but was unable to attend this year).
- Da Vinci Days Festival lidar demonstration, (in conjunction with the Professional Land Surveyor's of Oregon), July 2013.
- Louis Stokes Alliance for Minority Participation (LSAMP), Transportation Camp, Survey demonstrations and activities, June 2013.
- Louis Stokes Alliance for Minority Participation (LSAMP), Transportation Camp, Survey demonstrations and activities, June 2012.
- **Invited Lecture**, *lidar: Seeing through the Covers*, Academy for Lifelong Learning, Corvallis, OR (May 2, 2012)
- Geomatics Technology Demonstration, Beaver Open House, (November 8, 2010).
- **Invited Lecture**, *The whole world in your hands: Applications of terrestrial laser scanning to art and science*, Reuben H. Fleet Science Center, Balboa Park, San Diego (February 2, 2009)

Other Public Service

- Juror, Benton County, 2012
- Franklin Elementary Geography Night 2011 – helped establish an orienteering course for young students.
- Boy Scouts of America, Varsity Scout Team Coach, 2009-2011.
- Surveying Merit Badge Counselor, 2010.
- Juror, San Diego County, 2006
- Volunteer Missionary Service, Paraiba and Rio Grande do Norte, Brasil, 1999-2001

PATENTS

- Che, E., Olsen, M.J., (Notice of Allowance). Apparatus and Method for Efficient Point Cloud Feature Extraction and Segmentation Framework, OSU-19-48-02P018US.

CONSULTING ACTIVITIES

- CEO and co-Founder, EZDATAMD LLC, a company formed for tech transfer of geomatics research at Oregon State University. Formed March 2020.
- Consultant, FHWA Every Day Counts 3: 3D Engineered Models, Schedule, Cost, and Post-Construction. 2015-2016.
- Consultant, FHWA Every Day Counts 2: 3D Engineered Models for Construction. 2013-2014.
- Consultant, Updating liquefaction hazard maps for Draper City Ordinance, Draper City, Utah, Summer 2009
- Consultant, Programming for generation of liquefaction hazard maps, Utah Liquefaction Advisory Group, Salt Lake City, Utah, 2005

LANGUAGES

- English – native
- Portuguese - fluent
- Spanish – speak, read with basic competence

MISC

- Passed Fundamentals of Engineering/Engineer in Training (FE, EIT) Exam (score: 91) in October 2003
- Member of the University of Utah Concrete Canoe Team (2003)

RESEARCH MEDIA COVERAGE

1. Several updates\articles on lidarnews.com, 2009-present
2. Oregon State researchers working on a better, faster way to design and maintain buildings, OSU Newsroom, October 22, 2020.
3. PacTrans Researchers Develop New Techniques to Assess Rock Slopes Endangering Highways, UTC Spotlight, No 122. May 2018.
4. Partners preparing for the Big One, November 2, 2017, OSU Engineering Out Loud Podcast Series
5. UESI Member in Focus: Michael Olsen, May 3, 2017, ASCE UESI
6. Scientist use high tech to make roads safer from rockfalls, King 5 News, May 1, 2017
7. Researchers Develop New Technology Showing Rockfall Hazards, KEZI News, April 11, 2017
8. Quake Creates Massive Lake on Family Farm, Newshub, December 6, 2016
9. Tech in the Trees, Your National Forest Magazine, Winter/Spring 2017
10. Meet the Editor: Journal of Surveying Engineering, August 16, 2016
11. Interviewee, "Leaders in Resilience and Safety." Civil and Construction Engineering, Oregon State University. <<https://youtu.be/9TsFyE-VNCg>> (November 03, 2016).
12. Quake creates massive lake on family farm, Newshub, (December 12, 2016).
13. UW to open research center to study disasters, Komo News, (10/7/2016)
14. UW will host global center for disaster reconnaissance research, Seattle Times (10/5/2016)
15. New UW center will investigate natural disaster damage, K5 News (10/5/2016)
16. Moving at the speed of lidar, Momentum, Fall 2016.
17. More foundation options for Canterbury Home Owners, Scoop (4/29/15)
18. Manmade quakes shake eastern Christchurch, One News
19. RoboBees Can Fly and Swim, What's Next? Laser Vision, Smithsonian, November 17, 2015.
20. New OSU tool greatly speeds landslide risk detection, KTVZ, November 19, 2014.
21. Mapping a Path for the Future, CCE News, Fall/Winter 2013.
22. Mobile lidar enables high resolution, vehicle-based mapping, Environmental Monitor, July 9, 2013.
23. Oregon 9.0. When the next big one comes, will we be ready?, Terra, Spring 2013.
24. Laser scanner helps predict landslides, OTREC Research brief, 3/4/2013.
25. Mobile lidar technology expanding rapidly, OSU News, GIM International, Science News Daily, many others, 3/15/2013.
26. How the new mobile lidar guidelines will drive lidar adoption, Geodatapoint, 3/14/2013.
27. Meet your major: Engineering. Online Degrees.org, 2012.
28. TopCAT—Topographical Compartment Analysis Tool to Analyze Seacliff and Beach Change in GIS, GIS and Science, 7/3/2012.
29. Anatomy of a Disaster: Mapping Catastrophe in 3-D, Our Amazing Planet, October 27, 2011. Also appears in MSNBC.
30. Scan data aids tsunami engineer's inquest, Engineering News Record (ENR), October 17, 2011.
31. New program to expand, enhance use of lidar sensing technology, OSU News and Communication Services, (October 10,2011). Also appears in Space Daily, Oregon Coast Daily News, One News Page, Red Orbit, and PhysOrg
32. Transportation Research Board grants \$250k for mobile lidar guidelines development, SparView 9(27), (September 20,2011). <http://www.sparpointgroup.com/News>
33. Mount Hood Hides Secret Earthquake Fault, Our Amazing Planet, (August 31, 2011) <http://www.ouramazingplanet.com/mount-hood-hidden-fault-1953/>

34. Hidden earthquake faults revealed at Mount Hood, Oregon, The Oregonian, (August 29, 2011), Also appears at Bark Out, Bend Bulletin, and Signs of the times.
35. OSU using scanners to watch for landslides, Oregon Daily Journal of Commerce, (December 21, 2010), <http://djcoregon.com/news/2010/12/21/osu-using-scanners-to-watch-for-landslides/>
36. North Americans await a similar earthquake, Carlos Oyarce S., El Sur (April 23, 2010), <http://www.elsur.cl/diarioelsur/pagina.php?fecha=20100423&pagina=01>
37. Making waves, saving lives, NSF Science Nation Special Report, (December 14, 2009), http://www.nsf.gov/news/special_reports/science_nation/tsunamiresearch.jsp
38. Conference Review: 2009 Leica Geosystems HDS Worldwide User Conference, Geoinformatics, (December 9, 2009)
39. OSU Researchers Develop Earthquake Imaging System, KEZI News, Eugene, (November 5 2009), <http://kezi.com/news/local/147837>
40. lidar mapping after Samoan Tsunami Could Boost Research Efforts (November 4, 2009), OSU News and Communication Services, <http://oregonstate.edu/ua/ncs/archives/2009/nov/lidar-mapping-after-samoan-tsunami-could-boost-research-efforts>
41. Leica User's Conference wrap-up and Revit PC feature, lidarnews.com, (October 30, 2009), <http://lidarnews.com/leica-uc-wrap-up-and-revit-pc-feature>
42. Exposing Failures: Scripps researchers are monitoring San Diego's cliffs to better understand how they produce sandy beaches, Explorations, Scripps Institution of Oceanography, (March 2009), http://explorations.ucsd.edu/Research_Highlights/2009/Mar/Bluff_Collapse/
43. CISA3 Search for Lost Leonardo Da Vinci Painting Receives Chancellor's Collaboratories Grant, CALIT2 newsroom, (January 15, 2009), <http://www.calit2.net/newsroom/article.php?id=1451>
44. Coastal Bluff Study Seeks to Understand Processes That Cause Cliff Failures, CALIT2 Newsroom, (November 7, 2008), <http://www.calit2.net/newsroom/article.php?id=1419>, also published in Imperial Valley News
45. CISA3 Researchers Look Into the Past with High-Resolution Digital Scans of Italy's Palazzo Medici, CALIT2 newsroom, (October 31, 2008), <http://www.calit2.net/newsroom/article.php?id=1416>
46. UC San Diego Unveils World's Highest-Resolution Scientific Display System, CALIT2 News, (July, 9, 2008), <http://www.calit2.net/newsroom/rss.php?id=1332>
47. CISA3 Researchers Analyze Native American Site in Push for Digital Archaeology, CALIT2 News, (April 29, 2008), <http://www.calit2.net/newsroom/article.php?id=1284>
48. The Lost Leonardo da Vinci, 60 Minutes, (April 20, 2008), <http://www.cbsnews.com/stories/2008/04/17/60minutes/main4023449.shtml>
49. CISA3 da Vinci search in the Palazzo Vecchio using Laser Scanning, Telegraph TV, UK, (February 2008)
50. UC San Diego Researchers Acquire Data on Renaissance Landmark in Search for da Vinci Mural, CALIT2 News, (January 2, 2008), <http://www.calit2.net/newsroom/article.php?id=1212>, also published in Research Milestones

PROFESSIONAL REFERENCES

- Available upon request.