MICHAEL J. OLSEN

Associate Professor of Geomatics, Ph.D., E.I.T.
School of Civil and Construction Engineering, Oregon State University
101 Kearney Hall, Corvallis, OR 97331| (541)-737-9327 | michael.olsen@oregonstate.edu

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

Associate Professor, Geomatics,
School of Civil and Construction Engineering, Oregon State University **2015 – Present**
Joint Appointment, Associate Professor, 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

- 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.*** 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' evoluzuione 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.

2. ***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.
3. ***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. Mahmoudabadi, H.*, **Olsen, M.J**., & Todorovic, S., (2017, In Press). "Detecting sudden moving objects in a series of digital images with different exposure times." *Computer Vision and Image Understanding.* http://dx.doi.org/10.1016/j.cviu.2017.01.004
2. Gillins, D.T., **Olsen, M.J**., & Schultz, R.J. (2017, In Press). "The Current State of Surveying Education within Civil Engineering Programs in the United States," *Surveying and Land Information Sciences*, 76(1).
3. Nolan, J., Eckels, R., **Olsen, M.J.,** Yen, K.S., Lasky, T.A., and Rvani, B. (2017, In Press). "Analysis of the multi-pass approach for collection and processing of mobile laser scan data," *Journal of Surveying Engineering,* Special Issue on Mobile Mapping Technology.
4. 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
5. **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
6. 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
7. 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
8. 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 **,** 04015036.
9. Kashani, A.*, **Olsen, M.J.,** Parrish, C.E., & Wilson, N. (2015). "A review of lidar radiometric processing: from ad hoc intensity correction to rigorous radiometric calibration," *Sensors*, 15(11), 28099-28128; doi: 10.3390/s151128099
10. **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

11. 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

12. 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

13. Chin, A.*, & **Olsen, M.J.** (2015). "Evaluation of technologies for road profile capture, analysis, and evaluation," *Journal of Surveying Engineering,* 141(1), 04014011-(1-13), ASCE. http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000134

14. Olsen, M.J., (2015). "In-Situ change analysis and monitoring through terrestrial laser scanning," *Journal of Computing in Civil Engineering*, ASCE, 29(2), 04014040. http://dx.doi.org/10.1061/(ASCE)CP.1943-5487.0000328

15. Wing, B.M., Ritchie, M.W., Boston, K., Cohen, W.B., Gitleman, A., & **Olsen, M.J.,** (2015). "Individual snag detection using neighborhood attribute filtered airborne lidar data," *Remote Sensing of the Environment,* 163, 165-179**.** http://dx.doi.org/10.1016/j.rse.2015.03.013

16. Beck, S.J.C., **Olsen, M.J.,** Sessions, J., & Wing, M.G. (2015). Automated extraction of forest road network geometry from aerial LiDAR. European Journal of Forest Engineering, 1(1), 21-33. http://ormantransportu.org/ejfe/issue1/4_Wing-EJFE2015-1.pdf

17. Yim, S.C., **Olsen, M.J.,** Cheung, K.F., & Azadbakht, M. (2014). "Tsunami modeling, fluid load simulation and validation using geospatial field data," *Journal of Structural Engineering,* ASCE, Special Issue on Computational Simulation in Structural Engineering. 140(8), A4014012-(1-14). http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0000940

18. Hollenbeck, J., **Olsen, M.J.,** & Haig, S.M. (2014). "Using terrestrial laser scanning to support ecological research in the rocky intertidal zone," *Journal of Coastal Conservation, 18(6),* 701-714*.* http://dx.doi.org/10.1007/s11852-014-0346-8

19. Olsen, M.J., and Arras, T. (2014) "Insights on initial perceptions of geomatics by engineering students in their first GIS course", Surveying and Land Information Sciences, 73(2), 71-79. http://www.ingentaconnect.com/content/nsps/salis/2014/00000073/00000002/art00004

20. Conner, J.*, & **Olsen, M.J.,** (2014). "Automated quantification of distributed landslide movement using circular tree trunks extracted from terrestrial laser scan data," *Computers and Geosciences,* 67, 31**-39.** http://dx.doi.org/10.1016/j.cageo.2014.02.007

21. Gillins, D.T., **Olsen, M.J.,** & Schultz, R.J., (2013). "Educating the wide range of surveying activities," Surveying and Land Information Sciences, 73(1), 21-30 SaGES 2013 Special Issue. http://www.ingentaconnect.com/content/nsps/salis/2013/00000073/00000001/art00006

22. Williams, K.*, **Olsen, M.J.,** Roe, G.V., & Glennie, C., (2013). "Synthesis of Transportation Applications of Mobile lidar," *Remote Sensing,* Special Issue on Advances in Mobile Laser Scanning and Mobile Mapping, 5(9), 4652-4692. http://dx.doi.org/10.3390/rs5094652

23. Chock, G., Carden, L., Robertson, I., **Olsen, M.J**., & Yu, G., (2013). Tohoku tsunami-induced building failure analysis with implications for U.S. tsunami and seismic design codes, *Earthquake Spectra,* EERI, Special Issue on Tohoku Earthquake and Tsunami 29(S1), S99-125. Special Issue. http://dx.doi.org/10.1193/1.4000113

24. **Olsen M.J.,** Chen, Z., Hutchinson T.C., & Kuester, F., (2013). "Optical techniques for multi-scale damage assessment in natural hazard analysis," *Geomatics, Natural Hazards and Risk,* 4(1), 49-70. http://dx.doi.org/10.1080/19475705.2012.670668

25. Wing, B.M., Ritchie, M.W., Boston, K., Cohen, W.B., Gitleman, A., & **Olsen, M.J.,** (2012). "Prediction of understory vegetation cover with airborne Lidar in an interior ponderosa pine forest," *Remote Sensing of the Environment,* 124, 730-741. http://dx.doi.org/10.1016/j.rse.2012.06.024

26. **Olsen M.J.,** Cheung, K.F., Yamazaki, Y., Butcher, S.M., Garlock, M., Yim, S.C., McGarity, S., Robertson, I., Burgos L., and Young Y.L. (2012). "Damage Assessment of the 2010 Chile Earthquake and Tsunami using ground-based lidar," *Earthquake Spectra,* EERI, 28(S1), S179-197. Special Issue. http://dx.doi.org/10.1193/1.4000021

27. Silvia, E.P.*, & **Olsen M.J.** (2012). "To Level or Not to Level: laser scan inclination sensor evaluation," *Journal of Surveying Engineering,* ASCE, 138(3), 117-125 http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000072

28. **Olsen, M.J.,** Young, A.P, & Ashford, S.A. (2012). "TopCAT – Topographical Compartment Analysis tools for ArcGIS," *Computers and Geosciences,* 45, 1-336. http://dx.doi.org/10.1016/j.cageo.2011.11.007

29. **Olsen, M.J.**, Johnstone, E., Kuester, F., Ashford, S.A., & Driscoll, N. (2011). "New automated point-cloud alignment for ground based lidar data of long coastal sections," *Journal of Surveying Engineering,* ASCE, 137(1), 14-25. http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000030

30. **Olsen, M.J.**, Kuester, F., Chang, B., & Hutchinson, T. (2010). "Terrestrial laser scanning based structural damage assessment," *Journal of Computing in Civil Engineering*, ASCE, 24(3), 264-272. http://dx.doi.org/10.1061/(ASCE)CP.1943-5487.0000028

31. Young, A.P., **Olsen, M.J.,** Driscoll, N., Gutierrez, R., Guza, R.T., Flick, R.E., Johnstone, E., & Kuester, F., (2010). "Comparison of airborne and terrestrial lidar estimates of seacliff erosion in Southern California," *Journal of Photogrammetric Engineering and Remote Sensing*, ASPRS, 76(4), 421-427. http://dx.doi.org/10.14358/PERS.76.4.421

32. **Olsen, M.J.,** Johnstone, E., Driscoll, N., Ashford, S.A., & Kuester, F., (2009). "Terrestrial laser scanning of extended cliff sections in dynamic environments: a parameter analysis," *Journal of Surveying Engineering,* ASCE, 135(4), 161-169. http://dx.doi.org/10.1061/(ASCE)0733-9453(2009)135:4(161)

33. **Olsen, M.J.,** Bartlett, S.F., & Solomon, B.J. (2007). "Lateral Spread Hazard Mapping of the Northern Salt Lake Valley, Utah, for a M7.0 Scenario Earthquake," *Earthquake Spectra*, 23(1), 95-113. http://dx.doi.org/10.1193/1.2424987

Peer-Reviewed Journal Papers (Technical Notes):

34. **Olsen, M.J.,** Johnstone E., & Kuester F. (2013). "Hinged, pseudo-grid triangulation method for long, near linear cliff analysis," *Journal of Surveying Engineering*, ASCE, 139(2), 105-109. http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000101

Other Publications in Peer-Reviewed Journals (Discussions, Forums, etc.)

35. **Olsen, M.J.** (2013). "Robert J. Schultz, Professor at Oregon State University," Surveying and Land Information Sciences, 73(1), 7-8. Special Issue. http://www.ingentaconnect.com/content/nsps/salis/2013/00000073/00000001/art00003

36. **Olsen, M.J.** (2011). "Linking Surveying, GIS, and Computer Science into Geomatics through a Digital Terrain Modeling course," *Journal of Surveying Engineering,* ASCE, 137(2), 37-39. http://dx.doi.org/10.1061/(ASCE)SU.1943-5428.0000051

37. Olsen, M.J., & Stuedlein, A.W., (2010). Discussion of "Use of terrestrial laser scanning for the characterization of retrogressive landslides in sensitive clay and rotational landslides in river banks", *Canadian Geotechnical Journal,* 47(10), 1164-1168. http://dx.doi.org/10.1139/T10-067

Fully Peer-Reviewed Conference Papers:

1. Wood, R.L., Mohammadi, M.E., Barbosa, A.R., Kawan, C.K., Shakya, M., and Olsen, M.J. (2017). "Structural Damage Assessment of a Five Tiered Pagoda Style Temple in Nepal," In Proc. 16th World Conference on Earthquake Engineering, 16WCEE 2017, Santiago Chile, Jan 9-13, 2017, Paper No. 2915.
2. Roe, G.V., O'Banion, M.S., and Olsen, M.J. (2016). "Mobile Lidar Guidelines to Support Utility Asset Management Along Highways," Proc. UESI Pipelines Conference, 2016, Kansas City, Missouri.
3. Alomari, K., Gambatese, J., & **Olsen, M.J.** (2016). "The role of BIM and 3D laser scanning on jobsites from the perspective of construction project management personnel." Construction Research Congress, 2016, Puerto Rico.
4. Nolan, J., Eckels, R., **Olsen, M.J.,** Yen, K.S., Lasky, T.A., & Ravani, B. (2015). "Analysis of the multi-pass approach for collection and processing of mobile scan data," Proc. Of 9th International Symposium on Mobile Mapping Technology (MMT2015), 9-11 Dec. 2015, Sydney, Australia.
5. Wentz, F.J., Ballegooy, S., Rollins, K.M., Ashford, S.A., & **Olsen, M.J**. (2015). "Large scale testing of shallow ground improvements using blast-induced liquefaction." Proc. 6th International Conference on Earthquake Geotechnical Engineering, Nov. 1-4, 2015, Christchurch, New Zealand.
6. **Olsen, M.J.,** & Gillins, D., (2015). "How can geomatics technologies benefit geotechnical studies," Proc. 6th International Conference on Earthquake Geotechnical Engineering, Nov. 1-4, 2015, Christchurch, New Zealand.
7. Nolan, J., Eckels, R., Evers, M., Singh, R., & **Olsen, M.J.** (2015). "Multi-pass approach for mobile terrestrial laser scanning," ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., II-3/W5, 105-112, doi:10.5194/isprsannals-II-3-W5-105-2015.
8. Kashani, A.G., **Olsen, M.J**., Graettinger, A.J., (2015). Laser Scanning Intensity Normalization and Segmentation for Building Wind Damage Detection, Proc. International Workshop of Computing in Civil Engineering, IWCCE, ASCE, Austin, Texas, June 21-23, 2015.
9. O'Banion, M.S.*, & **Olsen, M.J.,** (2014). "Predictive, seismically-induced landslide hazard mapping in Oregon using a maximum entropy model (MAXENT)," 10th US National Conference on Earthquake Engineering, Frontiers on Engineering, July 21-25, 2014, Anchorage Alaska.
10. Mahmoudabadi, H.*, Shoaf, T., & **Olsen, M.J.** (2013). "Superpixel clustering and planar fit segmentation of 3D LIDAR point clouds," Proc. ComGeo, IEEE, San Francisco, CA**. Highlight Paper.**
11. **Olsen, M.J.,** Ponto, K., Kimball, J., Kuester, F., & Seracini, M. (2013). "2D open-source editing techniques for 3D laser scans," *Proceedings of the 38th Annual Conference on Computer Applications and Quantitative Methods in Archaeology - CAA'2010*. Editors: F. Contreras, M. Farjas, and F.J. Melero, Arcaheopress, Oxford, England, 455-461.
12. Sharifi-Mood, M.*, Santha-Mahalingam, R., & **Olsen, M.J.** (2013). "Geospatial characterization of causative factors for landslides in the Oregon Coast Range," ASCE GeoCongress 2013, San Diego, CA. CD-ROM.

13. Hurwitz, D.S., Tuss, H., **Olsen, M.J.,** Roe, G.V., & Knodler, M.A. (2013). "Transportation applications for Mobile LIDAR scanning: A state-of-the-practice questionnaire," Transportation Research Record Annual Meeting, CD-ROM.
14. Olsen, M.J., & Kayen, R. (2012). "Post-earthquake and tsunami 3D laser scanning forensic investigations," ASCE Forensics Conference 2012, San Francisco, California. CD-ROM.
15. Olsen, M.J., Allan, J.C., & Priest, G.R. (2012), "Johnson Creek landslide movement and erosion quantification through 3D laser scanning," *ASCE GeoCongress 2012*, Oakland, California.
16. Olsen, M.J., Rikli, A.M., & Sillars, D.N. (2012). "Investigation of Straw Wattle Influence on Surficial Slope Stability," *Transportation Research Board* (TRB) Annual meeting, 2012.
17. Olsen, M.J., & Donahue, J., (2011). "A wave of new information: LIDAR investigations of the 2009 Samoan tsunami," *Proc. Solutions to Coastal Disasters Conference*, ASCE, Anchorage, Alaska (June 26-29, 2011), p. 321-330.
18. Olsen, M.J., Piaskowy, S., Yim, S., Burgos, L., & Butcher, S., (2011). "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*, Zurich Switzerland, p. 343-348.
19. Olsen, M.J., Johnstone, E., Young, A.P., Hsieh, T.J., Ashford, S.A., Driscoll, N., & Kuester, F. (2008). "Rapid Response to Seacliff Erosion in San Diego County using Terrestrial LIDAR," *Proc. Solutions to Coastal Disasters Conference*, ASCE, Oahu, Hawaii (April 13-16, 2008), p. 573-583.
20. Hsieh, T.J., Olsen, M.J., Johnstone, E., Young, A.P., Driscoll, N., Ashford, S.A., and Kuester, F., (2007). VR-Based Visual Analytics of LIDAR Data for Cliff Erosion Assessment, Proc. Of the 2007 ACM Symposium on Virtual Reality Software and Technology, ACM, Newport Beach, CA, (Nov 5-7, 2007), p. 249-250.

Other Conference Papers: (Panel review and selection of abstract or Invited Contribution).

1. **Olsen, M.J.,** Gillins, D.T., & van Ballegooy, S. (2016). "Terrestrial Laser Scanning Deformation Analyses of Blast-Induced Liquefaction Settlements," Proc. FIG Working Week 2016, "Recovery from disaster."
2. Brando, G., Rapone, D. Spacone, E., Barbosa, A, **Olsen, M.J.,** Gillins, D., Soti, R., Varum, H., Arede, A., Vila-Pouca, N., Furado, A., Oliveira, J., Rodrigues, R., Stavridis, A., Bose, S., Faggella, M., Gigliotti, R., Wood, R. (2015). "Reconnaissance report on the 2015 Gorkha earthquake effects in Nepal." Italian Conference on Seismic Engineering, **Invited Paper**.
3. **Olsen, M.J.,** & Gillins, D.T., (2013). "Influence of coordinate system selection for coastal deformation analyses," 2nd Joint International Symposium on Deformation Monitoring, Nottingham, UK. FIG, ISPRS, IAG.
4. **Olsen, M.J.,** & Arras, T., (2013). "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.
5. Gillins, D.T., **Olsen, M.J.,** & Schultz, R.J., (2013). "Educating the wide range of surveying activities," Surveying and Geomatics Educators Society (SaGES) Conference XXIV, Tyler, TX.
6. Williams, K.*, **Olsen, M.J.,** & Chin, A.*, (2012). "Accuracy assessment of geo-referencing methodologies for terrestrial laser scan surveys," Proceedings of the ASPRS annual conference, Sacramento, CA.
7. Yim, S.C., Cheung, K.F., **Olsen, M.J.**, & Yamazaki, Y., (2012). "Tohoku tsunami survey, modeling and probabilistic load estimation applications," Proceedings of the Int. Symposium on Engineering Lessons Learned from the 2011 Great East Japan Earthquake," March 1-4, 2012, Tokyo, Japan. Invited Paper.

8. **Olsen, M.J.**, Carden, L., Silvia, E.P.*, Chock, G., Robertson, I.N., & Yim, S. (2012). "Capturing the impacts: 3D laser scanning following the Tohoku earthquake and tsunami," Proceedings of the 9th CUEE and 4th ACEE Joint Conference, Tokyo Institute of Technology, Japan.
9. **Olsen, M.J.** (2011). "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, 13 pp. (Primary Author).

Published, Peer-Reviewed Conference Abstracts:

1. Sharifi-Mood, M.*, **Olsen, M. J.,** Gillins, D. T., and Javadnejad, F. (2016). "Oregon hazard explorer for lifelines program (OHELP): A web-based geographic information system tool for assessing potential Cascadia earthquake hazard." Poster session presented at the AGU Fall Meeting 2016, American Geophysical Union (AGU), San Francisco, CA (December 2016).
2. Allahyari, M.*, **Olsen, M.J.,** Gillins, D.T., and Dennis, M.L. (2016). "Evaluation of the horizontal and vertical accuracy of GNSS survey observations from a real-time network," AGU Fall Meeting Abstract G21B-1003.
3. Gillins, D.T., Dennis, M.L., Weaver, B., **Olsen, M.J.,** and Parrish, C. (2016). "Hybrid static plus real-time GNSS Survey Networks: An efficient approach for height modernization surveys," Ion GNSS+, Portland, Oregon (September 2016).
4. Sharifi-Mood, M.*, **Olsen, M.J.**, Gillins D.T., and Javadnejad, F. (2016). "Oregon Hazard Explorer for Lifelines Program (O-Help): A web-based geographic information system tool for assessing potential Cascadia earthquake hazards. AGU Fall Meeting Abstract NH23C-1880.
5. O'Banion, M.S.*, **Olsen, M.J**., Rault, C., Wartman, J., and Cunningham, K. (2016). "Comparison of terrestrial laser scanning and structure from motion techniques for assessment of unstable rock slopes in Alaska," Geological Society of America Abstracts with Programs. Vol. 48, No. 7. doi: 10.1130/abs/2016AM-287069
6. Wartman, J., Grant, A., Olsen, M.J., Massey, C., O'Banion, M.S.*, and Motley, M. (2016). "Assessment of rockfall impacts on buildings during the 2010-2011 Canterbury, New Zealand Earthquake Sequence. Geological Society of America Abstracts with Programs. Vol. 48, No. 7. doi: 10.1130/abs/2016AM-284175
7. **Olsen, M.J.,** O'Banion, M.S.*, Burns, P., Wartman, J., Motley, M. "Ground-based LIDAR and Structure from Motion 3D data acquisition of rockfall-damaged homes in Christchurch, Abstract, Geotechnical and Structural Engineering Congress 2016, Phoenix, AZ, February 2016.
8. Motley, M.R., **Olsen, M.J.,** Wartman, J., Barber, R.B. & Grant A., "Assessment of Community-Scale Structural Resilience against Rockfall Impacts", Lightning round presentation, Geotechnical and Structural Engineering Congress 2016, Phoenix, AZ, February 2016.
9. Rashidian, V., Gillins, D.T., Olsen, M.J., and Baise, L. "An evaluation of the performance of empirical models for mapping liquefaction-induced ground settlement in Christchurch after the Catnerbury Earthquake Sequence." Geotechnical and Structural Engineering Congress 2016, Phoenix, AZ, February 2016.
10. Sharifi-Mood, M.*, **Olsen, M.J.,** Gillins, D., & Mahalingam, R.* (2015). "Probabilistic, seismically-induced landslide hazard mapping of western Oregon," AGU Fall Meeting 2015, Abstract NH43D-05.
11. Grant, A., Wartman, J., Massey, C., **Olsen, M.J.,** Motley, M.R., & Hanson, D. (2015). "Vulnerabilities to Rock-Slope Failure Impacts from Christchurch, NZ, Case History Analysis. AGU Fall Meeting 2015, Abstract NH41A-1797.
12. Motley, M.R., **Olsen, M.J.,** Massey, C., Wartman, J., & Barber, R.B., "Structural Resilience to Post-Earthquake Rockfall Impacts in Christchurch, New Zealand", Poster presentation, Structures Congress 2015, Portland, OR, April 2015.

13. 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.
14. 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.
15. Leshchinsky, B., **Olsen, M.J**., and Tanyu, B. (2014). "The Contour Connection Method: An Automated Algorithm for Detecting Landslide Deposits with LIDAR," Geological Society of America Abstracts with Programs, 46(6).
16. O'Banion, M.*, Hales, M., **Olsen, M.J.**, Roe, G.V., Bolander, A., & Reedy, M. (2014). "Dots for DOTs – E-learning tools for National Mobile lidar Guidelines for Transportation Applications," ASCE Transportation and Development Institute, Orlando, FL.
17. Roe, G.V., & **Olsen, M.J.** (2013). "Dots for DOTs – Development of national mobile lidar guidelines for transportation applications," International lidar Mapping Forum, ILMF, Denver, Co.
18. Wing, B., Ritchie, M.W., Boston, K., Cohen, W.B., Olsen, M.J., (2012). "Individual snag detection using airborne lidar data and 3D local-area point-based intensity filtration," Proceedings, SilviLaser, Sept. 16-19, 2012, Paper Number SL2012-171, Vancouver, B.C.
19. Chin, A.*, & **Olsen, M.J.** (2012). "Paving the way for Terrestrial Laser Scanning Assessment of Road quality," Road Profiler User Group Annual Meeting, Minneapolis, MN.
20. **Olsen, M.J.,** Butcher, S., & Silvia, E.P.* (2011). "In-situ change detection using 3D laser scanning," Geological Society of America Abstracts with Programs, 43(5), p. 406.
21. **Olsen, M.J.**, Johnstone, E.A., & Driscoll, N. (2011). "Seacliff erosion analysis using 3D laser scanning," Geological Society of America Abstracts with Programs, 43(5), p. 618.
22. **Olsen, M.J.**, (2011). "Applications of 3D laser scanning to Earthquake Reconnaissance," Geological Society of America Abstracts with Programs, 43(5), p. 112.
23. Chin, A.*, and **Olsen, M.J.** (2011). "Comparison of inertial profiler measurements with leveling and 3D laser scanning results for pavement profiles," Road Profiler User Group Annual Meeting, Stateline, NV.
24. **Olsen, M.J.,** Piaskowy, S., Yim, S., Burgos, L., & Butcher, S. (2011). "Infrastructure damage of the 2010 Maule Chile earthquake and tsunami," NEES Quake Summit, Buffalo, NY.
25. **Olsen, M.J.,** Ponto, K., Kimball, J., Kuester, F., & Seracini, M. (2010). "2D open-source editing techniques for 3D laser scans," Extended Abstracts of Computer Applications and Quantitative Methods in Archaeology - CAA'2010. Javier Melero, Pedro Cano, & Jorge Revelles, p. 47-50.
26. Raymond, J., **Olsen, M.J.**, Johnstone, E., & Driscoll, N. (2010). Relationship between cliff erosion, wave reworking of failures, and beach sand supply in the Oceanside Littoral Cell, Southern California, AGU 2010 Ocean Sciences Meeting, Portland, Oregon
27. Johnstone, E., Raymond, J., **Olsen, M.J.**, & Driscoll, N. (2010). Rugosity of Sandstone-Prone Sea Cliffs in the Oceanside Littoral Cell, Southern California, may provide a relative time scale since last failure, AGU Ocean Sciences Meeting 2010, Portland, Oregon
28. Donahue, J., & **Olsen, M.J.,** (2009). lidar Investigations of the 2009 American Samoa Tsunami, AGU Fall Meeting 2009, San Francisco, California

Research Reports:

1. Gillins, D. T., **Olsen, M. J.,** Sharifi-Mood, M.*, Javadnejad, F., and Narayanan (Santha-Mahlingham), R.* (2015). "OHELP User Manual." Oregon State University, Corvallis, OR.
2. Cunningham, K., **Olsen, M.J.,** Wartman, J., & Dunham, L, (2015). "A platform for proactive, risk-based slope asset management, Phase II," Pactrans Report 2013-M-UAF-0042. http://depts.washington.edu/pactrans/wp-content/uploads/2013/11/PacTrans-42-UAF-Cunningham.pdf

3. Hurwitz, D., **Olsen, M.J**., and Neill, J. (2015). "Alternative Information Signs: An evaluation of driver comprehension and visual attention." Pactrans Report 2013-S-OSU-0029. http://depts.washington.edu/pactrans/wp-content/uploads/2013/11/PacTrans-29-OSU-Hurwitz-et-al1.pdf
4. **Olsen, M.J.,** Ashford, S.A., Santha-Mahlingham, R.*, Sharifi-Mood, M.*, O'Banion, M.*, and Gillins, D.T. (2015). "Impacts of Potential Seismic Landslides on Lifeline Corridors," Oregon DOT SPR-740, Final Report. http://www.oregon.gov/ODOT/TD/TP_RES/docs/Reports/2015/SPR740SeismicLandslides.pdf
5. Hurwitz, D.S., **Olsen, M.J.,** Marnell, P., & Mahmoudabadi H.* (2013). "Rendering of dense, point cloud data in a high fidelity driving simulator," Pactrans Final Project Report. http://depts.washington.edu/pactrans/wp-content/uploads/2012/12/PacTrans-10-739437-Hurwitz-David-Small-Project.pdf
6. Metzger, A.T., **Olsen, M.J.**, Wartman, J., Dunham, L., Stuedlein, A., and Cunningham, K. (submitted 2013). "A platform for proactive risk-based slope asset management – Phase I," Interim Project Report. http://depts.washington.edu/pactrans/wp-content/uploads/2012/12/PacTrans-2-739439-Metzger-Andrew-Multi-Project.pdf
7. **Olsen, M.J.**, Roe, G.V., Glennie, C., Persi, F., Reedy, M., Hurwitz, D., Williams, K.*, Tuss, H., Squellati, A., and Knodler, M. (2013). "Guidelines for the use of mobile lidar in transportation applications," TRB NCHRP Final Report 748, 194 pp**.** http://www.trb.org/Publications/Blurbs/169111.aspx **,** http://learnmobilelidar.com
8. **Olsen, M.J.,** Roe, G.V., & Raugust, J.* (2013). Use of advanced geospatial data tools, technologies, and Information in DOT projects, NCHRP Synthesis 446, Topic 43-09, 87 pp. http://www.trb.org/Main/Blurbs/169202.aspx
9. **Olsen, M.J.**, and Chin, A.* (2012). Inertial and Inclinometer-based profiler repeatability and accuracy using the IRI model, Oregon DOT SPR-744, 154 pp. http://www.oregon.gov/ODOT/TD/TP_RES/docs/Reports/2012/SPR744_final.pdf
10. **Olsen, M.J.,** Butcher, S., & Silvia, E.P.*, (2012). Real-time change and damage detection of landslides and other earth movements threatening public infrastructure, OTREC Final Report 2011-22 and ODOT Final Report RS 500-500, 80p. http://www.oregon.gov/ODOT/TD/TP_RES/docs/reports/2012/sr500_500_landslides.pdf
11. **Olsen, M.J.,** Rikli, T.M.*, and Sillars, D.N., (2011). Evaluation of the Relationship of Slope Stability and Straw Wattle Placement, Final Report submitted to Granite Construction, 98p.
12. Contributing author to Oregon Coordinate Reference System, Handbook and User Guide V1.0, Oregon Department of Transportation, Lead Author: Mark L. Armstrong, April 2010, 48p. http://www.oregon.gov/odot/hwy/geometronics/pages/ocrs.aspx#OCRS_Handbook_&_User_Guide
13. Co-author to Learning from Earthquakes: Samoa Earthquakes and Tsunami of September 29, 2009, EERI Special Earthquake Report, EERI Newsletter 44(1), January 2010, 8p.
14. Donahue, J., **Olsen, M.J.**, Thio, H.K., & Somerville, P. (2009). American Samoa Tsunami Reconnaissance Report, September 29, 2009, NSF sponsored Geo-Engineering Extreme Events Reconnaissance (GEER) Report, Bray. J., Editor, 101p. http://www.geerassociation.org/GEER_Post%20EQ%20Reports/American%20Samoa_2009/AmSamoa09_index.html
15. Bartlett, S. F., **Olsen, M. J.,** & Solomon, B. J., (2005), Lateral Spread Hazard Mapping of Northern Salt Lake County for a Magnitude 7.0 Scenario Earthquake, United States Geological Survey, USGS Award No. 04HQGR0026, 218 p.

16. Bartlett, S. F., & **Olsen, M. J.,** (2004), Probabilistic Liquefaction Potential and Liquefaction-Induced Ground Failure Maps for the Urban Wasatch Front: Collaborative Research with University of Utah, Utah State University and Utah Geological Survey, Yearly Summary Report, United States Geological Survey, USGS Award No. 04HQGR0026, 8p.

Published Maps:

1. Santha-Mahlingham, R.*, **Olsen, M.J.,** Sharifi-Mood, M.*, and Gillins, D.T. (2015). "Landslide susceptibility analysis of lifeline routes in the Oregon Coast Range," DOGAMI Open File Report O-15-01.

Published Websites:

1. O'Banion, M.S.*, **Olsen, M.J.,** Hurwitz, D.S. (2016**). "**Tourist Information Signs", http://touristinfosign.com

2. O'Banion, M.S.*, **Olsen, M.J.,** Roe, G.V., and Reedy, M. (2014**). "**Mobile lidar: Guidelines for use in transportation applications, http://learnmobilelidar.com

3. Santha-Mahlingham, R.*, Sharifi-Mood, M.*, Javadnejad, F., Gillins, D.T. **Olsen, M.J.** (2014). "O-HELP: Oregon Hazard Explorer for Lifelines Program," http://ohelp.oregonstate.edu

Industry Publications (Magazine Articles)

1. Olsen, M.J., (2015). "ISPRS Geospatial Week Recap," Lidar News. http://lidarnews.com/articles/isprs-geospatial-week-recap/
2. Leshchinsky, B., Olsen, M.J., Tanyu, B., and Wartman, J. (2015). "The Contour Connection Method: Inventorying and Classifying Landslides using Bare Earth Lidar.", Lidar News eMagazine, 5(2).
3. 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.
4. Olsen,M.J., Gillins, D.T, and Parrish, C. (2014). "The Civil Engineering Geomatics Program at Oregon State University," Lidar News eMagazine, 4(5).
5. Burnett, J.D., Gabriel, R., **Olsen, M.J.,** & Wing, M.G. (2014). "Evaluation of Structure from Motion (SfM) in Compact, Long Hallways." Lidar News eMagazine, 4(3).
6. Raugust, J.D.*, & **Olsen, M.J.** (2013). Emerging Technology: Structure from Motion," Lidar News eMagazine, 3(6).
7. Mahmoudabadi, H.*, & **Olsen, M.J.,** (2013). "Application of Structured Light Scanning in Generating a 3D Human Head Model," Lidar News eMagazine, 3(5).
8. **Olsen, M.J** (2012). Scannin' in the Wind, Lidar News eMagazine, 2(6).
9. **Olsen, M.J.,** & Schultz, R.J. (2012). "OSU graduates its first Masters student in twenty years!," The Oregon Surveyor, 35(2), 15-16.
10. **Olsen, M.J** (2012). Avoiding Incidents with Incidence, Lidar News eMagazine, 2(2), 37-39
11. **Olsen, M.J (**2011). Putting the pieces together – Laser scan geo-referencing, Lidar News eMagazine, 1(2).
12. **Olsen, M.J.,** & Johnstone, E. (2011). Reflections on Laser Scanning at the Coast, Lidar News eMagazine, 1(1), 26&28.
13. **Olsen, M.J.,** & Schultz, R.J., (2010). "Eleven years of annual surveying student-corporate dinners: Thank you PLSO Willamette Chapter!", The Oregon Surveyor, 33(4), p14.

14. **Olsen, M.J.,** (2010). "Group Effort for Students," Professional Surveyor Magazine, 30(1), Special Issue on Education, Feature Story and Cover Image, p. 12-14.

Industry Publications (Short newsletter articles)

1. Olsen, M.J. (2015). "ISPRS Geospatial Week Recap," Lidar News Today, posted online October 6, 2015.
2. **Olsen, M.J.** (2014). "Learn Mobile Lidar - Mobile LIDAR Guidelines (NCHRP 15-44) E-learning Website" Lidar news 4(11), http://lidarnews.com, posted online: August 8, 2014.
3. **Olsen, M.J.** (2013). "Scripting Power: Unleashing the Potential of the Point Cloud," Lidar news 3(13), http://lidarnews.com, posted online: August 4, 2013. Spotlight Article.
4. **Olsen, M.J.** (2013). "Change in the point cloud," Lidar news 3(9), http://lidarnews.com, posted online: May 25, 2013.
5. **Olsen, M.J.** (2013). "Guidelines for the use of mobile Lidar in transportation applications," lidar news 3(5), http://lidarnews.com, posted online: March 9, 2013.
6. **Olsen, M.J.** (2013). "Book Review: ASPRS manual of airborne topographic lidar," Lidar news 3(3), http://lidarnews.com, posted online: January 26, 2013
7. **Olsen, M.J.** (2012). "Seeing a point cloud for the first time," Lidar news 2(15), http://lidarnews.com, posted online: July 6, 2012.
8. **Olsen, M.J.** (2012). "Tips on purchasing a laser scanner," Lidar news, 2(12), http://lidarnews.com, posted online: May 26, 2012.
9. **Olsen, M.J.** (2012). "Final Projects – Oregon State University Digital Terrain Modeling Class Winter 2012," Lidar news, 2(8), Spotlight Article, http://lidarnews.com, posted online: March 24, 2012.
10. **Olsen, M.J.** (2012). "Picking the Right Point," Lidar news Special Bulletin, http://lidarnews.com, posted online: Jan. 11, 2012.
11. **Olsen, M.J.** (2011). "Oregon DOT demonstrates mobile laser scanner to OSU students," Lidar news 1(22), http://lidarnews.com, posted online: Nov. 27, 2011.
12. **Olsen, M.J.** (2011). "Lidar in Da Hood," Lidar news 1(17), http://lidarnews.com, posted online: Sept. 16, 2011.
13. **Olsen, M.J.,** (2011). A Visit to the Leica Geosystems Manufacturing Facility, Lidar news 1(13), http://lidarnews.com, posted online: July 16, 2011.
14. **Olsen, M.J.,** (2011). Spatial data Applications Committee and Upcoming lidar workshop – "Practical Applications of lidar", Lidar news 1(12), http://lidarnews.com, posted online: July 12, 2011.
15. **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.
16. **Olsen, M.J.,** (2011). Laser Scanning Book Review, Lidar news 1(8), Spotlight Article, http://lidarnews.com, posted online: April 28, 2011.
17. **Olsen, M.J.,** & Fotopolous, G. (2011) Engaging Youth at SPAR 2011, Lidar news 1(6), http://lidarnews.com, posted online: March 30, 2011.
18. **Olsen, M.J.,** (2011). Challenging discipline boundaries with lidar, Lidar news, 1(2), Spotlight Article, http://lidarnews.com, posted online: January 21, 2011.
19. **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. Equipment Wishlist. NHERI Rapid Workshop, Seattle, WA (January 27, 2017).
2. *Invited.* Geomatics at Oregon State University. Professional Land Surveyors of Oregon (PLSO) Annual Meeting, Portland OR (January 20, 2017).
3. *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.
4. Matt S. O'Banion*, **Michael J. Olsen**, 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.
5. **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.
6. 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).
7. *Invited.* High Resolution Co-Seismic Rockfall Analysis Using Lidar Technology, OSU-China Workshop, (August 30, 2016).
8. *Invited.* Assessing, Coding, and Marking of Highway Structures in Emergency Situations, AASHTO Subcommittee on Maintenance (SCOM) Annual Meeting, Las Vegas, Nevada (July 20, 2016).
9. Mobile Lidar Guidelines to Support Utility Asset Management Along Highways, ASCE UESI Pipelines Conference, Kansas City, Missouri (July 19, 2016).
10. Virtual Reality-based Site Visibility Analysis, International Conference on Sustainable Design, Engineering and Construction, ICSDEC 2016. (May 20, 2016).
11. Terrestrial Laser Scanning Deformation Analyses of Blast-Induced Liquefaction Settlements, Federation International Geomatics (FIG) Working Week 2016, Christchurch, New Zealand (May 5, 2016).
12. Probabilistic, seismically-induced landslide hazard mapping of western Oregon, American Geophysical Union (AGU) Fall Meeting 2015, Abstract NH43D-05. (December 18, 2015)
13. Guidelines for the use of mobile lidar in transportation applications. Mobile Mapping Technology, Sydney Australia, (Dec. 11, 2015).
14. *Invited.* Guidelines for the use of mobile lidar in transportation applications. Laser Scanning- Beyond the Hype, MNG Surveys, Sydney Australia, (Dec. 8, 2015).
15. *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).
16. *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.
17. 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).

18. Multi-pass approach for mobile terrestrial laser scanning, ISPRS Geospatial Week/Laser Scanning Workshop, La Grande Motte, France. (Sept 28, 2015).
19. Gillins, D., Parrish, C. & Olsen M.J. UAV 3D surveys for civil engineering applications, Autonomous Systems @ OSU Event, Corvallis, OR (June 30, 2015).
20. 3D laser scanning and imaging at OSU, Surveying and Geomatics Educators Society, Orono, ME (June 22, 2015).
21. Advanced change analysis algorithms for coastal landslide and erosion evaluation, 16th Annual JALBTCX Airborne Coastal Mapping and Charting Workshop, Corvallis, OR (June 18, 2015).
22. *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.
23. Leshchinsky, B., Olsen, M.J., and Tanyu, B. (2014). "Automated Means of Identifying Landslide Deposits using Lidar data using the Contour Connection Method," AGU Falll Meeting, NH41B-3786, December 15-19, 2014, San Francisco, CA. Poster Presentation.
24. Santha-Mahlingham, R.*, and Olsen, M.J. (2014). "Evaluation of Landslide Mapping Techniques and Lidar-based Conditioning Factors," NH41B-3785. AGU Falll Meeting, December 15-19, 2014, San Francisco, CA. Poster Presentation.
25. Invited Panelist, Accuracy versus Cost, SPAR Europe, Amsterdam, the Netherlands (December 9, 2014).
26. Advanced change analysis algorithms for landslide and erosion evaluation, European Lidar Mapping Forum (ELMF), Amsterdam, The Netherlands (December 10, 2014).
27. 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.
28. 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.
29. 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.
30. 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).
31. Guidelines for the Use of Mobile Lidar in Transportation Applications: E-learning. SPAR International, Colorado Springs, CO (April 15, 2014).
32. Invited, Detecting distributed landslide displacements from laser scans of trees, Oregon Surveyor's Conference, Salem Oregon (April 1, 2014).
33. Invited, Laser scans of blast-induced liquefaction tests in Christchurch, New Zealand, Oregon Surveyor's Conference, Salem Oregon (April 1, 2014).
34. 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).
35. 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).

36. 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.
37. Probabilistic Analysis of Seismically induced landslide instability and deformation in Oregon. Oregon Landslide Hazard Group, DOGAMI, Portland Oregon. (June 25, 2013).
38. 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).
39. Dots for D.O.T.s: Guidelines for the use of Mobile lidar in transportation applications, SPAR International, Colorado Springs, CO (April 17, 2013).
40. Invited, In-situ change detection using 3D laser scanning, Oregon Surveyors' Conference, Salem, OR, (March 19, 2013).
41. Invited, Guidelines for the use of Mobile lidar in transportation applications, Oregon Surveyors' Conference, Salem, OR, (March 19, 2013).
42. Post-earthquake and tsunami 3D laser scanning forensic investigations, ASCE Forensics Conference, San Francisco, California, (November 1, 2012).
43. Invited, Geomatics to the Rescue!, Alaska Department of Transportation, (September 13, 2012).
44. Invited, Scanning after a disaster, SPAR International, The Woodlands, TX (April 17, 2012).
45. Invited, Student projects, research and problem solving using 3D laser scanning across disciplines, SPAR International, The Woodlands, TX, (April 18, 2012). Presenter and Panelist.
46. 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).
47. 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).
48. Terrestrial laser scanning reconnaissance of the 2011 Tohoku Earthquake and Tsunami, International lidar Mapping Forum (ILMF), Denver, CO, (January 2012).
49. Invited, In-situ change detection using 3D laser scanning, Geological Society of America Annual Meeting, Minneapolis, MN, (October 2011).
50. Seacliff erosion analysis using 3D laser scanning, Geological Society of America Annual Meeting, (Minneapolis, MN, October 2011). Digital Poster.
51. Applications of 3D laser scanning to Earthquake Reconnaissance, Geological Society of America Annual Meeting 2011, (Minneapolis, MN, October 2011). Digital Poster.
52. Invited, Real time change detection using laser scanning and GNSS, CGSIC Annual Meeting, September 19, 2011, Portland, OR.
53. 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).
54. A wave of new information: Lidar investigations of the 2009 Samoan tsunami, ASCE Solutions to Coastal Disasters Conference. (June 2011).
55. 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)

56. Invited, Three-way benefits of collaboration between a university, consultancy, and instrument vendor, Geosystems at Hexagon 2011 conference, Orlando, FL (June 8, 2011)
57. Invited, Efficiency evaluation of Seacliff erosion studies using terrestrial laser scanning, ODOT Surveyor's Conference, Salem, OR (March 28,2011)
58. Invited, Real Time Change Detection using laser scanning, ODOT Surveyor's Conference, Salem, OR (March 28,2011)
59. 3D laser scanning and BIM revolutionizing geomatics education at Oregon State University, SPAR 2011, Woodlands TX (March 21-24, 2011). Presenter and Panelist.
60. 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.
61. Invited, OPUS Datum Conversion Tool for Oregon, Oregon GPS User Group (OGUG) Meeting (Nov. 5, 2010). Co-presented with Mark L. Armstrong.
62. Invited, Terrestrial Laser Scanning Demonstration, ASPRS Columbia River Chapter Meeting (Aug. 12, 2010)
63. 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)
64. 2D open-source editing techniques for 3D laser scans, Computer Applications and Quantitative Methods in Archeology - CAA'2010, Granada, Spain (April 7, 2010).
65. Invited, Geomatics at Oregon State University, ODOT Surveyor's Conference (March 18, 2010).
66. Invited, 3D laser scanning: Adding another dimension to civil engineering, ASCE Oregon section meeting (February 16, 2010).
67. Efficiency evaluation of Seacliff erosion studies using terrestrial laser scanning, SPAR 2010, Woodlands, TX (February 8-10, 2010).
68. Invited, lidar based damage assessment of the 2009 American Samoa tsunami, Oregon State University, Industry Advisory Board meeting, (October 30, 2009).
69. 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).
70. 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.
71. Insights on sediment from seacliff failures using terrestrial laser scanning for rapid response in San Diego County, H20 Headwaters to Oceans Conference in Long Beach, CA (Oct 28-30, 2008).
72. Rapid Response to seacliff erosion in San Diego County using terrestrial lidar, ASCE Solution to Coastal Disasters Conference, Oahu, HI (April 13-16, 2008).
73. 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.
74. Geo-referencing lidar scans for high resolution coastal mapping and quantifying uncertainty, Presented at the H20 Headwaters to Oceans Conference in Long Beach, CA (Oct. 23-25, 2007).

Webinars

1. *Panelist. EDC Round 3: 3D Engineered Models: Schedule, Cost, and Post-Construction,* Federal Highway Administration, Every Day Counts (EDC) 3, September 25, 2014.
2. *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.
3. *Invited Webinar – Lidar: Mapping the future of Civil Engineering,* Kleinfelder monthly webinar series, (November 12, 2013).
4. *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.
5. *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. Terrestrial laser scanning deformation analyses of blast-induced liquefaction settlements, GIS Day, Hyperwall demonstration, Corvallis, OR (November 11, 2016).
2. ***Invited.*** Applications of lidar for geo-hazards. CH2MHill Geotechnical Lecture Series, April 2016
3. 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.
4. 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.
5. 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. ***Invited****, Ethics,* ASCE UESI Pipelines Conference. (June 18, 2016).
2. ***Invited****, Mapping for Transportation B,* Mobile Mapping Technology (MMT2015), Sydney, Australia, (Dec. 11, 2015).
3. ***Invited****, Best Practices for Successful Implementation of Automated Machine Guidance,* Transportation Research Board Annual Meeting, sponsored by Committee AFB80.
4. ***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. *ASCE Editor's Workshop,* Reston, VA (November 2016).
2. *OSU Delegate,* UCGIS 2016 Symposium, Scottsdale, AZ (May 24-26, 2016).
3. *ASCE Editor's Workshop,* Reston, VA (November 2015).
4. *Attendee,* Design to Paver, Oregon DOT & FHWA, Corvallis, Oregon, (July 9-10, 2014). *Assisted with arranging tours of various OSU CCE labs.*
5. *OSU Delegate,* UCGIS 2014 Symposium, Pasadena, CA (May 19-21, 2014).

6. *Presenter,* NSF Industry/University Cooperative Research Center (I/UCRC) Industry Planning Workshop, Corvallis, Oregon (July 31- August 1, 2013).
7. *Attendee,* PEER NGA-West2 Project, EERI, Long Beach, CA (November 8, 2013).
8. *Poster Presentation*. Post-Disaster Structural Data Collection Following the 11 March 2011 Tohoku, Japan Tsunami, NSF Rapid Workshop, (Arlington, VA, February 2012).
9. *Mock Reviewer,* NSF Proposal Writing Workshop, Lincoln, Nebraska, (September 1-2, 2010).
10. *Attendee,* Design to Dozer, Oregon DOT, Eugene, Oregon, (August 17-18, 2010).
11. *Lecturer,* Overview of Coordinate Systems, Oregon Coordinate Reference System (OCRS) roll-out workshop, (April 16, 2010).
12. *Invited Presenter*, Understanding coastal change through terrestrial laser scanning, PARI blast liquefaction workshop, (September 25, 2009)
13. *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).
14. *Presenter.* Liquefaction Hazard Mapping for Northern Salt Lake County, Utah Liquefaction Advisory Group Workshop, Salt Lake City, UT (October 18, 2004).

FUNDED RESEARCH

Agency & Dates	***PI (and coPIs)***	***Title***	***Total Budget***
Cascadia Lifelines Program (CLiP) 10/1/16-9/31-17	Olsen, M.J. (PI) & Leshchinsky, B.A.	*O-HELP: A Web-Based GIS Tool for Assessing Earthquake Hazards in Oregon (Phase III)*	*$ 50,000.00*
Oregon DOT 9/19/16-10/31/17	Gambatese, J. (PI) & Olsen, M.J. (Co-PI)	*Construction Workzone Safety*	*$ 49,518.00*
Oregon DOT 8/30/16-12/31/17	Hurwitz, D.S. (PI) & Olsen, M.J. (Co-PI)	*Driving Distractions Due to Drones*	*$ 77,236.00*
Pactrans Dates TBD	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*	*$ 160,000.00*
National Science Foundation (CMMI, NHERI) 9/1/16-8/31/2021	Wartman, J. (PI), Olsen, M.J., (Co-PI), Irish, J. (Co-PI), Miles, S., (Co-PI), and Berman, J. (Co-PI)	*NHERI Experimental Facility 2016-2020*	$ 4,100,000.00

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*	$ 300,000.00
USFS *1/11/17-12/31/21*	Leshchinsky, B.A., (PI), Olsen, M.J., (Co-PI)	*SPR786-Enhancing Landslide Inventorying using LiDAR USFS Landslide Inventorying Tools using LiDAR and GIS*	$ 70,000.00
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 Rectro-Reflective Signs*	*$ 165,000.00*
Oregon DOT *714/16-7/31/24*	Olsen, M.J. (PI), Parrish, C. (Co-PI)	*Coastal Landslide and Bluff Retreat Monitoring for Climate Change Adaptation and Targeted Risk Assessment*	*$ 650,837.00*
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)*	*$ 47,126.00*
NOAA/NGS (CIMRS) *10/1/16 – 9/30/17*	*Gillins, D. (PI), Parrish, C. (Co-PI), and Olsen M.J. (Co-PI)*	*Towards Optimizing the Determination of Accurate Heights using GNSS (Phase II)*	*$ 150,000.00*
NSF (CMMI, NEES) *7/1/15-6/30/16*	*OSU Barbosa, A. (PI) and Olsen, M.J. (Co-PI)* *U. Buffalo Stavridis, A. (PI)*	*RAPID/Collaborative Research: Post-Disaster, Reinforced Concrete Building Performance Data Collection following the April 25, 2015 Nepal Earthquake*	*$ 81,326.00*

ODOT *12/21/15-12/29/17*	*Leshchinsky, B.A., (PI), Olsen, M.J., (Co-PI)*	*Enhancing Landslide Inventorying, Hazard Assessment and Asset Management using LiDAR*	*$ 250,000.00*
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*	$ 180,000.00
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*	$ 30,000.00
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)*	$ 67,716.00
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.*	$ 39,156.00
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.*	$ 32,739.00
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,*	$ 169,619.00

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*	$ 400,000.00
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*	$ 399,655.00
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*	$ 499,954.00
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.*	$ 51,529.00
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.*	$ 8,787.00
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).*	$ 250,000.00

PACTRANS, Travel Oregon 7/1/13-6/30/14	Hurwitz, D. (PI) Olsen, M.J, (Co-PI)	*Evaluation of Existing and Alternative Information Signs in Oregon*	$ 60,000.00
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)*	$ 33,000.00
PACTRANS, OSU 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.*	$ 40,000.00
National Academies of Science Transportation Research Board NCHRP 10/11-3/13	Olsen M.J.(PI)	*Synthesis 20-05, Topic 43-09: Advanced Geospatial Tools in Transportation*	$ 40,000.00
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*	$ 249,902.00
Oregon DOT 9/11-/9/12	Olsen M.J. (PI)	*SPR 744: Inertial and inclinometer-based profiler repeatability and accuracy using the IRI model*	$ 90,000.00
NSF (CMMI-NEES)	U. Hawaii Robertson I. (PI), Cheung, F.C. (Co-PI)	*Collaborative Research: RAPID – Post-disaster structural data collection following the 11 March 2011*	$ 42,523.00

6/11-6/12	OSU Olsen M.J. (PI), Yim, S. (Co-PI)	*Tohoku, Japan Tsunami,*	
Oregon Parks and Recreation Department (OPRD) 6/11-7/11	Olsen M.J. (PI)	*Laser scanning of Fort Yamhill*	$ 1,991.00
Oregon DOT 4/11-9/13	Olsen M.J. (PI), Ashford S (Co-PI)	*SPR 740: Impacts of potential seismic landslides on lifeline corridors*	$ 240,000.00
OTREC\Oregon DOT 10/10-9/11	Olsen M.J. (PI)	*2011-398: Real-time change and damage detection of landslides and other earth movements threatening public infrastructure*	$ 91,683.00
Granite Construction/OSU	Sillars D.N. (PI), Olsen M.J. (Co-PI)	*Evaluation of Surficial Slope Failures*	$ 126,043.00
		Totals	**$ 9,665,340.00**

ADDITIONAL PROJECTS

Survey data acquisition and data processing to support research collaborations

- 11/2016 – Kaikoura Post-earthquake lidar surveys, GEER.
- 8/2016 – HJ Andrews Forest Plot Surveys, Forestry
- 7/2016-9/2016 – Wavelab Island surveys
- 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. RockScan – 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

RECONNAISSANCE TEAMS AND EFFORTS

- 2016 Amberley\Kaikoura New Zealand Earthquake (November-December 2016), 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

Course Development

- 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.
- 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 a CE568.

Non-Credit Courses and Workshops*

- "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.
- "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.
- "Guidelines for the use of mobile lidar in transportation applications, Dec. 7, 2015. Mobile Mapping Technology Conference, Sydney, Australia. 3 hrs.
- "Lidar data processing for seacliff erosion studies," July 2015. Scripp's 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*, Cascadia Subduction Zone hazards and seismically induced landslide hazard mapping, GEO 565 (Nov. 19, 2015).

2. *Invited guest lecture*, Cascadia Subduction Zone hazards and seismically induced landslide hazard mapping, CE411 Ocean Engineering (Nov. 11, 2015).
3. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2015).
4. *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)
5. *Invited Seminar*, Lighten Everyone's Load: Lidar Applications to Support Engineers, Planners, Scientists, and More. Portland State University, TREC Seminar.
6. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2014).
7. *Invited guest lecture*, Condition Assessment Technologies, CE520- Special Topics: Condition Assessment and Repair of Reinforced Concrete (May 23, 2014).
8. *Invited Seminar*, Geomatics in Geology, Portland State University Geology Dept. (February 25, 2014).
9. *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).
10. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2013).
11. *Invited Presentation*, 3D laser scanning (lidar) applications, Oregon State University ACSM student chapter meeting, (November 2013).
12. *Invited Seminar,* Using lidar to study seacliff erosion\coastal landslides, Geomorphology Brown Bag seminar series, Oregon State University, (April 10, 2012)
13. *Invited Presentation*, 3D laser scanning (lidar) applications and demonstration, Oregon State University ACSM student chapter meeting, (November 2012).
14. *Invited guest lecture*, Geomatics at OSU, CCE101, Freshman Orientation (Fall 2012).
15. *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).
16. *Invited,* Slope stability monitoring, CE 570 Shear Strength and Slope Stability Course, Oregon State University, (January 18, 2011)
17. *Invited,* 3D laser scanning (lidar) applications and demonstration, Oregon State University ACSM student chapter meeting, (October 20, 2010). Co-presented with Evon Silvia.
18. ***Invited Demonstration and Lecture****, 3D laser scanning in Geology,* University of Oregon (Field demonstration: May 15, 2010; Lecture: May 21, 2010)
19. *Invited Seminar,* Multi-disciplinary investigation of the 2010 Maule Chile Earthquake and Tsunami, Oregon State University (May 17, 2010). Co-presented with Solomon Yim.
20. ***Invited Demonstration,*** *Using terrestrial laser scanning for seacliff erosion studies,* Oregon State University, (February 6, 2010)
21. *Invited,* Coastal erosion and damage modeling using Terrestrial Laser Scanning, University of California, San Diego (November 16, 2009)
22. ***Invited Lecture,*** Documenting the 2009 American Samoa Tsunami with LIDAR, CE 415/515 Coastal Infrastructure, Oregon State University, (November 10, 2009)

23. **Invited Presentation,** LIDAR based damage assessment of the 2009 American Samoa tsunami, Oregon State University, Industry Advisory Board meeting, (October 30, 2009)
24. American Samoa Tsunami Reconnaissance by GEER, special lecture, Oregon State University, (October 21, 2009).
25. *Invited,* Some applications of 3D laser scanning (AKA lidar), Oregon State University ACSM student chapter meeting, (October 14, 2009)
26. Fall 2009 several lectures for CE571 Foundation Engineering.
27. *Invited,* Geomatics – a quantitative link between process and product, Oregon State University, (April 1, 2009)
28. **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)
29. **Invited Lecture,** Non-destructive, forensic analysis using terrestrial laser scanning, Seminar on Forensics Engineering, University of California, San Diego, (October 16, 2008)
30. Terrestrial laser scanning to understand seacliff erosion and a whole lot more, Research recruitment seminar for undergraduate students (October 15, 2008)
31. **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
1. Mahsa Allahyari	MS	*Accuracy Evaluation of Real-Time GNSS Survey Observations*	Fall 2016
2. Matt O'Banion	MS	*GeoMat VR: An immersive virtual reality system with applications in Civil Engineering and Geomatics.* (Currently a PhD Student at OSU)	Winter 2016
3. Patrick Burns* **co-advised with Andre Barbosa (CCE)*	MS	*Multi-hazard vulnerability assessment of bridges: Case study and sensitivity analysis for the state of Oregon.* (Currently at Magnusson Klemencic Associates)	Summer 2015
4. Hamid Mahmoudabadhi	PhD	*Implementing High Dynamic Range (HDR) photography to improve 3D laser scanning point cloud visualization and segmentation* (Currently at Trimble Geomatics)	Summer 2015
5. Rubini Santhana Mahalingam	PhD	*Analysis of spatial data from terrain models for landslide predictive mapping* (Currently at Risk Management Solutions)	Spring 2014
6. John Raugust	MS	*Structure from Motion: An Analysis of Terrestrial Applications (Project)* (Currently at AKS Engineering)	Spring 2014
7. Jeremy Conner	MS	*Quantification of landslide movement in a forested environment*	Spring 2013

		(Currently at West Point Academy)	
8. Mahyar Sharifi-Mood	MS	*Probabilistic Analysis and Mapping of Seismically Induced Landslide Deformation in Oregon* (Currently a PhD Student at OSU)	Spring 2013
9. Abby Chin	MS	*Paving the Way for Terrestrial Laser Scanning Assessment of Road Quality* (Currently at AECOM)	Spring 2012
10. Keith Williams	MS	*Accuracy Assessment of lidar Point Cloud Geo-Referencing* (Currently at UNAVCO)	Spring 2012
11. Evon Silvia	MS	*Overcoming the Level Bubble: Terrestrial Laser Scanning Reference Frame Transformations* (Currently at Quantum Spatial)	Spring 2011
12. Tony Rikli	MS	*Evaluation of Straw Wattle Placement and Surficial Slope Stability* (Currently at a PBS Engineering and Environmental Inc.)	Spring 2011

Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Matt O'Banion	MS/PhD	Winter 2017
2. Mahyar Sharifi-Mood^	PhD	Fall 2016
3. Erzhou Che	PhD	Spring 2019
4. Michael Bunn#	PhD	Spring 2018

^co-advised with Daniel Gillins (CCE)
#co-advised with Ben Leschinsky (COF, CCE)

Graduate Thesis or Project Committees

MEng Advisor:

Graduated

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

Current

1. None.

Committee Member:

Graduated

1. Brian Weaver, MS, 2016, Civil Engineering, Geomatics
2. Matthew Gillins, MS, 2016, Civil Engineering, Geomatics
3. Daniel Hess, MS, 2016, Civil Engineering, Geotechnical
4. Michael Bunn, MS, 2016, Civil Engineering, Geotechnical
5. Michael Eddy, MS, 2015, Civil Engineering, Geomatics
6. Vahid Rashidan, MS, 2015, Civil Engineering, Geotechnical & Geomatics

7. Darren Kerr, MS, 2015, Civil Engineering, Geomatics
8. Justin Neill, MS, 2014, Civil Engineering, Transportation
9. Tracy Arras, PhD., 2014, Water Resources Engineering
10. Storm Beck, MS., 2014, Forest Engineering, Civil Engineering, Transportation.
11. Seth Reddy, PhD., 2014, Civil Engineering, Geotechnical
12. Mohsen Azadbakht, PhD., 2013, Civil Engineering, Structural
13. Michael Ewald, MS, 2013, Marine Resource Management
14. Kyle Romney, MS, 2013, Civil Engineering, Geotechnical
15. Tadesse Meleske, PhD., 2013, Civil Engineering, Geotechnical
16. Jessica Young, MS, 2012, Civil Engineering, Geotechnical
17. Andrew Strahler, MS, 2012, Civil Engineering, Geotechnical
18. Michael Craven, MS, 2011, Forest Engineering
19. Murat Monkul, PhD., 2010, Civil Engineering, Geotechnical
20. James Michael Eller, MS, 2010, Civil Engineering, Geotechnical

Current

1. Farid Javadnejad, PhD, Civil Engineering, Geomatics
2. Nicholas Wilson, MS, Civil Engineering, Geomatics
3. Nick Forfinski, PhD, Civil Engineering, Geomatics
4. Kato Kengo, PhD., Civil Engineering, Geotechnical
5. Michael Dennis, PhD., Civil Engineering, Geomatics
6. Kasim Alomari, PhD., Const. Eng. Management
7. Tad Larsen, PhD, Geosciences
8. Julia Rask, MS, Water Resources Engineering

Graduate Council Representative:

1. Ellen Lamont, PhD, Current, Geology, CEOAS
2. Celio Sousa, PhD, Current, Forest Ecosystems and Society
3. John Trimble, PhD, Current, Geology
4. Nick Cohn, PhD., Current, CEOAS
5. Alex Wiggins, PhD, Current, Electrical and Computer Engineering
6. Dan Lazewatsky, PhD, 2015, Robotics, MIME
7. Jennifer DiGiulio, MS, 2015, Geology, CEOAS
8. Nick Arnold, MS, 2015, Geography, CEOAS
9. Charles Preppernau, MS, 2013, Geography, CEOAS
10. Adam Lindsley, MS, 2014, Soil Science.
11. Arwa Hamid, MS, 2013, EECS
12. Ronghua Ni, PhD., 2013, EECS
13. Nicolas Legg, MS, 2013, Geosciences
14. Sanchit Karve, MS, 2012, Computer Science
15. Brian King, MS, 2012, Computer Science
16. Brian Wing, PhD., 2012, Forest Engineering
17. Jennifer Inouye, MS, 2012, Computer Science
18. Nadia Payet, PhD, 2011, Computer Science
19. Roxanne Hastings, MS, 2011, CEOAS
20. Vivienne Ng, MS, 2010, EECS
21. 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-present)
6. Catherine Burchard (Spring 2015- present)
7. Lucas Viana (Summer 2015)
8. Gabriel Cambraia Gomes de-Melo (Summer 2016)
9. Keava Campbell (Summer 2016, SURF – co-advised with Ben Leshchinsky)

Postdoctoral Trainees

1. Jaehoon Jung (Winter 2017-present)
2. Alireza Kashani (Fall 2014-Summer 2016)

Other Advising

- Faculty Advisor (representing CCE), Tau Beta Pi, Fall 2010-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 nearly $1 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

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)
- 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)
  - Director (2013-present)
  - Conference Committee (2013-present)
- 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 and Workshop Organization

- Co-Organizer, NHERI Rapid Center Workshop, Seattle, Washington, January 26-27, 2017.
- SaGES 2015 Conference Organization Committee Member
- 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

- NSF Proposal Review Ad-hoc Reviewer CMMI
- 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
- 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
- Journal of Sensors, MDPI
- Lasers in Engineering
- Journal of Building Engineering
- Measurements, Elsevier
- Mountain Science
- Remote Sensing, MDPI
- Sensors, MDPI
- Transportation Letters: the International Journal of Transportation Research
- Transportation Research Part C: Emerging Technologies, Elsevier.
- Earth Science Reviews, Elsevier
- Infrastructures, MDPI

Conferences

- ASCE Forensics Conference
- ASCE Geo-Congress Conference
- ASCE Pipelines Conference
- Performance-Based Design Conference
- ASCE IWCEE Conference

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

Events\Tours

- 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-present)
- UCGIS Alternate Delegate (2014-2015)
- Provost cluster hire proposal (Geo-intelligence and planning certificate program) development team (2014)
- Tau Beta Pi Engineering Honor Society, Oregon State University Chapter Advisor: 2010-present
- UCGIS Alternate Delegate (2014-present)
- CCE Geomatics Group Coordinator (2009-present)
- 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, annually).

Service to the Public

Outreach Activities

- 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

CONSULTING ACTIVITIES

- 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. Tech in the Trees, Your National Forest Magazine, Winter/Spring 2017
3. Meet the Editor: Journal of Surveying Engineering, August 16, 2016
4. Interviewee, "Leaders in Resilience and Safety." Civil and Construction Engineering, Oregon State University. <https://youtu.be/9TsFyE-VNCg> (November 03, 2016).
5. Quake creates massive lake on family farm**,** Newshub, (December 12, 2016).
6. UW to open research center to study disasters**,** Komo News, (10/7/2016)
7. UW will host global center for disaster reconnaissance**,** research, Seattle Times (10/5/2016)
8. New UW center will investigate natural disaster damage**,** K5 News (10/5/2016)
9. More foundation options for Canterbury Home Owners, Scoop (4/29/15)
10. Manmade quakes shake eastern Christchurch**,** One News
11. RoboBees Can Fly and Swim, What's Next? Laser Vision, Smithsonian, November 17, 2015.
12. New OSU tool greatly speeds landslide risk detection, KTVZ, November 19, 2014.
13. Mapping a Path for the Future, CCE News, Fall/Winter 2013.
14. Mobile lidar enables high resolution, vehicle-based mapping, Environmental Monitor, July 9, 2013.
15. Oregon 9.0. When the next big one comes, will we be ready?, Terra, Spring 2013.
16. Laser scanner helps predict landslides, OTREC Research brief, 3/4/2013.
17. Mobile lidar technology expanding rapidly, OSU News, GIM International, Science News Daily, many others, 3/15/2013.
18. How the new mobile lidar guidelines will drive lidar adoption, Geodatapoint, 3/14/2013.
19. Meet your major: Engineering. Online Degrees.org, 2012.

20. TopCAT—Topographical Compartment Analysis Tool to Analyze Seacliff and Beach Change in GIS, GIS and Science, 7/3/2012.
21. Anatomy of a Disaster: Mapping Catastrophe in 3-D, Our Amazing Planet, October 27, 2011. Also appears in MSNBC.
22. Scan data aids tsunami engineer's inquest, Engineering News Record (ENR), October 17, 2011.
23. 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
24. Transportation Research Board grants $250k for mobile lidar guidelines development, SparView 9(27), (September 20,2011). http://www.sparpointgroup.com/News
25. Mount Hood Hides Secret Earthquake Fault, Our Amazing Planet, (August 31, 2011) http://www.ouramazingplanet.com/mount-hood-hidden-fault-1953/
26. 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.
27. 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/
28. 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
29. Making waves, saving lives, NSF Science Nation Special Report, (December 14, 2009), http://www.nsf.gov/news/special_reports/science_nation/tsunamiresearch.jsp
30. Conference Review: 2009 Leica Geosystems HDS Worldwide User Conference, Geoinformatics, (December 9, 2009)
31. OSU Researchers Develop Earthquake Imaging System, KEZI News, Eugene, (November 5 2009), http://kezi.com/news/local/147837
32. 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
33. 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
34. 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/
35. 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
36. 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
37. 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
38. 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
39. 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
40. The Lost Leonardo da Vinci, 60 Minutes, (April 20, 2008), http://www.cbsnews.com/stories/2008/04/17/60minutes/main4023449.shtml

41. CISA3 da Vinci search in the Palazzo Vecchio using Laser Scanning, Telegraph TV, UK, (February 2008)
42. 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.