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CURRENT POSITIONS

- Principal Senior Research Scientist: University of Washington, Department of Human Centered Design and Engineering
- Director, [Impact360 Alliance](http://impact360alliance.org)

EDUCATION

University of Washington, 1999-2004

Ph.D., Geography (earned 3/19/04)

Dissertation: "Participatory Assessment of a Comprehensive Areal Model of Earthquake-induced Landslide (CAMEL)"

Chair: Timothy Nyerges, Ph.D.

University of Edinburgh, 1997-1998

Postgraduate Diploma, Geographical Information Systems

Diploma paper: "A Tool Is Just a Tool, Unless It Can Do It Itself"

Advisor: Neil Stuart, Ph.D.

University of Massachusetts - Amherst, 1996-1997

M.S., Civil and Environmental Engineering:

Thesis: "Rigorous Landslide Hazard Zonation using Newmark's Method and Stochastic Ground Motion Simulation"

Chair: Carlton Ho, Ph.D.

Washington State University, 1992-1996

B.S., Civil and Environmental Engineering

President's Honor Roll

HONORS

National Academy of Science Kavli Fellow (2014)

National Science Foundation Next Generation of Hazard and Disaster Researchers Fellow (2009) <http://www.ncsu.edu/project/nextgen/>

GRANTS AND AWARDS

Current

Lead PI, Memorandum of Agreement with University of Oklahoma, Director of Impact360 Alliance, \$3,000,000, July 2018 to June 2021.

Co-PI, National Science Foundation, Humans and Disasters in the Built Environment Program, "Participatory Statistical Inference of Interdependent Critical Infrastructure Recovery Times", August 2018 to September 2021, \$494,217.

Co-PI, University of Washington Population Health Initiative's Pilot Research Grant, "Building Back Better: Innovative Methods to Measure Resilience", May 1, 2018 to April 30, 2019, \$50,000.

Co-PI, National Science Foundation, "Natural Hazards Engineering Research Infrastructure: Post-Disaster, Rapid Response Research (RAPID) Facility", #1611820, September 1, 2016 – August 31, 2021 (estimated), \$4,200,000.

Lead PI, National Science Foundation, Critical Resilient Interdependent Infrastructure Systems and Processes Program, "Simulation-Based Hypothesis Testing of Socio-Technical Community Resilience Using Distributed Optimization and Natural Language Processing", #1541025, September 2015 - August 2019, \$1,727,968.

Co-PI, National Science Foundation, Infrastructure Management and Extreme Events Program, "Modeling Post-Disaster Housing Recovery Integrating Performance Based Engineering and Urban Simulation", #1560939, September 2015 - September 2019, \$469,684.

Past

Co-PI, University of Washington, Global Innovation Fund, "Understanding and Enhancing Seismic Cultures Around the Pacific Rim", December 2016-January 2018, \$19,544.

Co-PI, UW College of Engineering, Strategic Research Initiative Grant, "Resilience Against Infrequent but Severe Earthquakes (RAISE)", October 1, 2016 – September 30, 2017, \$70,000.

Co-PI, Washington State Division of Emergency Management, "Mount Baker Volcano Risk Perception of Glacier, WA", \$15,000, July – October, 2017.

Co-PI, Earthquake Engineering Research Institute, "Mexico Earthquake Early Warning System Reconnaissance", travel support, October 2017.

Lead PI, Washington Sea Grant, "Planning for Coastal Community Resilience to Tsunamis Using Transportation and Disaster Recovery Modeling," February 2013-January 2016, \$178,129.

Sole PI, National Science Foundation, Civil, Mechanical and Manufacturing Innovation Program, "Repeat Disaster Impacts to Infrastructure Networks and their Effects on Economic Agent Recovery", #0927356, October 2009 – September 2014, \$250,000.

Sole PI, National Science Foundation, "RAPID: Socio-Technical Restoration of Hurricane Isaac Power Outages" Award# 1313597, October 2012-July 2013, \$31,737.

Sole PI, Western Washington University Project Development Grant, June 2012 – August 2012, \$17,000.

Sole PI, Natural Hazards Center Quick Response Grant, "Differential Socio-Economic Impacts of San Diego Power Restoration Decisions" Grant 56299, \$1,805.

Sole PI, Washington State Emergency Management Department, "Earthquake Scenario Catalog", Contract Number E11-210, January 2011 – July 2011, \$66,562.

Co-PI, Earthquake Engineering Research Institute, "Haiti Earthquake Social Impacts Reconnaissance", travel support, February 2010.

Co-PI, Washington State Department of Ecology, "Flood Protection Study: Statewide

Levee Inventory”, Interagency Agreement No. C1000275, June 2010 – December 2012, \$160,000.

Sole PI, Washington State Division of Emergency Management, “Gap Analysis of State Seismic Mitigation Policies”, EMS-2009-GR-0017, January 2010 – June 2010, \$25,000.

Sole PI, Natural Hazards Center Quick Response Grant 56230, “Business Recovery Related to High Frequency Natural Hazard Events”, January 2007 – December 2008, \$2500.

Senior Personnel. NOAA Award No. NA07NOS4730146, “Community Resilience Index – A Conceptual Framework and Implementation Strategy”, February 2008 – June 2010 (no-cost extension), \$38,200.

Earthquake Engineering Research Institute Student Travel Award, 2nd International Conference on Urban Disaster Reduction, Taipei, Taiwan, November 2007, \$1,600.

PUBLICATIONS

Refereed Journal Articles

Burton, H.V., Miles, S.B., Nejat, A., and Kang, H. (in review) “A Framework and Case Study for Integrating Household Decision-Making into Post-Earthquake Recovery Models”, *International Journal of GIS*.

Miles, S.B., Burton, H.V., Kang, H. (2019) “Towards a Community of Practice for Disaster Recovery Modeling” *ASCE Natural Hazards Review*, 20(1), 04018023.

Longman, M. and Miles, S.B. (2019) “Using discrete event simulation to build a housing recovery simulation model for the 2015 Nepal earthquake”, *International Journal of Disaster Risk Reduction*, 35(101075)
<https://www.sciencedirect.com/science/article/pii/S2212420918311002>

Allen, R. M., Cochran, E. S., Huggins, T. J., Miles, S., & Otegui, D. (2018). Lessons from Mexico’s earthquake early warning system. *Eos, Earth and Space Science News*, 99.

Burton, H.V., Miles, S.B., Kang, H. (2018) “Integrating Performance Based Engineering and Urban Simulation to Model Post-Earthquake Housing Recovery”, *Earthquake Spectra*, 34(4), 1763-1785.

Miles, S. B. (2018). Participatory Disaster Recovery Simulation Modeling for Community Resilience Planning. *International Journal of Disaster Risk Science*, 9(4), 519-529.

Miles, S.B. (2018) “Comparison of Jurisdictional Seismic Resilience Planning Initiatives,” *PLOS Currents Disasters*, DOI:
10.1371/currents.dis.42c24f29588cb4f887af021449949801

Miles, S.B. and Gouran, B. (2016) “United States earthquake policy activity and coverage,” *Earthquake Spectra*, 32(1),
<http://earthquakespectra.org/doi/abs/10.1193/060314EQS081M>

- Miles, S., Jagielo, N., and Gallagher, H. (2015). "Hurricane Isaac Power Outage Impacts and Restoration." *J. Infrastructure Systems*, 10.1061/(ASCE)IS.1943-555X.0000267 , 05015005.
- Miles, S.B. (2015) "Foundations of Community Disaster Resilience: Well-Being, Identity, Services, and Capitals," *Environmental Hazards*, <http://www.tandfonline.com/doi/abs/10.1080/17477891.2014.999018>
- Miles, S.B., Gallagher, H., Huxford, C.J. (2014) "Impacts of the September 8th, 2011 San Diego power outage," *Journal of Infrastructure Systems*, 20(2), 05014002.
- Frazier , A.E., Renschler, C.S. and Miles , S.B. (2013) "Evaluating post-disaster ecosystem resilience using MODIS GPP data" *International Journal of Applied Earth Observation and Geoinformation*, 21, pp. 43-52.
- Green, R. A. and Miles, S. B. (2011) "Impacts of the Jan. 12th Haitian Earthquake", *Earthquake Spectra*, 27(S1), pp. S447-S462.
- Miles, S. B., Green, R. A., and Svekla, W. (2011) "Institutional capacity for urban disaster risk reduction in informal settlements of Guatemala City", *Disasters*, 36(3), pp. 365-381.
- Miles, S. B. and Chang, S. E. (2011) "ResilUS – A Community Disaster Resilience Model", *Journal of Cartography and GIS (CAGIS)*, 38(1), pp. 36 - 51.
- Miles, S. B. (2010) "Participatory model assessment of earthquake-induced landslide hazard models," *Natural Hazards*, 56(3), pp. 749-766.
- Miles, S. B. and Keefer, D. K. (2009) "Towards a comprehensive areal model of earthquake- induced landslides (CAMEL)", *Natural Hazards Review* 10(1), pp. 19 - 28.
- Miles, S. B. and Keefer, D. K. (2009) "Evaluation of CAMEL -- Comprehensive Areal Model of Earthquake-induced Landslides", *Engineering Geology*, 104, pp 1 - 15.
- Miles, S.B. and Chang, S.E. (2006) "Modeling Community Recovery From Earthquakes", *Earthquake Spectra*, 22(2) pp. 439-458.
- Miles, S.B. and Keefer, D.K. (2000) "Evaluation of seismic slope-performance models using a regional case study", *Environmental & Engineering Geoscience*, 11(1) pp. 25-39.
- Miles, S.B. and Ho, C.L. (1999) "Rigorous landslide hazard zonation using Newmark's method and stochastic ground motion simulation", *Soil Dynamics and Earthquake Engineering*, 18(4) pp. 305-323
- Miles, S.B. and Ho, C.L. (1999) "Applications and issues of GIS for civil engineering modeling", *American Society of Civil Engineers Journal of Computing in Civil Engineering*, 14(3) pp.144-152
- Other Refereed Publications*
- Ganji, A., Alimohammadi , N., and Miles, S.B. (2019) "Challenges in Community Resilience Planning and Opportunities with Simulation Modeling", 16th International Conference on Information Systems for Crisis Response and Management, Valencia, Spain.

- Ganji, A., and Miles, S.B. (2018, October). Toward Human-Centered Simulation Modeling for Critical Infrastructure Disaster Recovery Planning. In 2018 IEEE Global Humanitarian Technology Conference (GHTC) (pp. 1-8). IEEE.
- Miles, S.B. and Tanner, T. (2018) "Designing a Disaster Reconnaissance Field App with a User-Centered Approach", 11th National Conference on Earthquake Engineering, Los Angeles, CA, June 25-29, 2018.
- Miles, S.B. (2018) "Human-Centered Simulation for Analytic-Deliberative Seismic Resilience Planning", 11th National Conference on Earthquake Engineering, Los Angeles, CA, June 25-29, 2018.
- Miles, S.B., Ritchie, L., Hedley, N., Poland, C., Xiao, Y. (2017) "A Case Study of Earthquake Resilience Data Practices: 2010-2011 Canterbury Earthquakes Disaster" 16th World Conference on Earthquake Engineering, January 2017.
- Huling, D. and Miles, S.B. (2015) "Simulating disaster recovery as discrete event processes using Python," in Proceedings of the IEEE Global Humanitarian Technology Conference (GHTC), pp.248-253, October, 8-11 2015, Seattle, WA.
- Miles, S.B. (2014) "Modeling and visualizing infrastructure-centric community disaster resilience," 10th National Conference on Earthquake Engineering, Anchorage, AK, July 2014.
- Miles, S.B. (2014) "Theorizing community resilience to earthquakes," 10th National Conference on Earthquake Engineering, Anchorage, AK, July 2014.
- Miles, S.B. (2014) "Theorizing community resilience to improve computational modeling," Proceedings of ASCE-ICVRAM-ISUMA, Liverpool, UK, July 2014.
- Miles, S. and Jagielo, N. (2014) "Socio-Technical Impacts of Hurricane Isaac Power Restoration". Vulnerability, Uncertainty, and Risk (M. Beer, S.K. Au, J.W. Hall), Washington DC: pp. 567-576.
- Miles, S. B. (2013) "Modeling and geo-visualizing the role of infrastructure in community disaster resilience," International Efforts in Lifeline Earthquake Engineering, Edited by Craig Davis; Xiuli Du; Masakatsu Miyajima; and Liping Yan, American Society of Civil Engineering TCLEE Monograph 38.
- Barbour, K. and Miles, S. B. (2013) "A Preliminary Longitudinal Study of Lifeline Seismic Improvement Programs," International Efforts in Lifeline Earthquake Engineering, Edited by Craig Davis; Xiuli Du; Masakatsu Miyajima; and Liping Yan, American Society of Civil Engineering TCLEE Monograph 38.
- Wang, Y., Bartlett, S.F., and Miles, S.B. (2013) Earthquake Risk Study for Critical Energy Infrastructure Hub, Oregon Department of Geology and Mineral Industries Open-File Report O-13-09.
- Miles, S. B., and Keefer, D. K. (2007). "Landslide hazard modeled for the cities of Oakland, Piedmont, and Berkeley, northern California, from a M=7.1 scenario earthquake on the Hayward Fault Zone, Ch. 4." Multiple landslide hazard scenarios modeled for the Oakland-Berkeley area, northern California, R. J. Pike and R. W. Graymer, eds., U.S. Geological Survey Scientific Investigations Report 2007-5196, 51 p. <http://pubs.usgs.gov/sir/2007/5196/>.

- Miles, S. B. and Keefer, D. K. (2007) "A comprehensive areal model of earthquake-induced landslides using fuzzy logic systems", in 2nd International Conference on Urban Disaster Reduction, November, 27-29, Taipei, Taiwan.
- Miles, S. B. and Keefer, D. K. (2007) "Comprehensive areal model of earthquake-induced landslides: Technical specification and user guide", U.S. Geological Survey Open-File Report 2007-1072, p. 69.
- Miles, S.B. and Keefer, D.K. (2001) Seismic Landslide Hazard for the Cities of Oakland and Piedmont, CA, U.S. Geological Survey Miscellaneous Field Studies Map MF 01-2379, <http://geopubs.wr.usgs.gov/map-mf/mf2379>.
- Miles, S.B. and Keefer, D.K. (2001) Seismic Landslide Hazard for the City of Berkeley, CA, U.S. Geological Survey Miscellaneous Field Studies Map MF 01-2379, <http://geopubs.wr.usgs.gov/map-mf/mf2378>.
- Miles, S.B. (2000) Towards Policy Relevant Environmental Modeling: Contextual Validity and Pragmatic Models, U.S. Geological Survey Open-File Report 00-401, <http://geopubs.wr.usgs.gov/open-file/of00-401>.
- Miles, S.B., Keefer, D.K., and Nyerges, T.L. (2000) "A case study in GIS-based environmental model validation using earthquake-induced landslide hazard", Fourth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Amsterdam, pp. 104-114
- Miles, S.B., Keefer, D.K., and Ho, C.L. (1999) "Seismic landslide hazard analysis: From hazard map to decision support system", American Society of Civil Engineers Technical Council on Lifeline Earthquake Engineering Monograph No. 16: Optimizing Post-Earthquake Lifeline System Reliability, pp. 71-80.
- Miles, S.B. and Keefer, D.K. (1999) Comparison of Permanent Displacement Models for Spatial Seismic Landslide Hazard Analysis: Case Study of the Oakland East Quadrangle, California, U.S. Geological Survey Open-file Report 99-137.

Other Publications

- Johnson, L.A., Ripley, S., Miles, S.B., Neely, N. (in review) "Formalization of Local Pre-disaster Recovery Planning: Comparison of Local Approaches in the United States and New Zealand" Chapter, Disaster Management Casebook, Elsevier.
- Allen, R.M., Cochran, E.S., Huggins, T., Miles, S.B., Otegui, D. (2017) "Quake warnings, seismic culture", *Science*, 358(6367), 1111–1111. doi:10.1126/science.aar4640
- Eberhard, M., Berman, J., and Miles, S. (2017) "Earthquakes are inevitable but catastrophe is not", *Seattle Times*, September 29, 2017, <https://www.seattletimes.com/opinion/earthquakes-are-inevitable-but-catastrophe-is-not/>
- Burton, H.V., Miles, S.B., Kang, H. (2016) "Modeling Post-Disaster Housing Recovery Integrating Performance Based Engineering and Urban Simulation" Poster presented at the 4th International Conference on Urban Disaster Reduction, Wellington, New Zealand, October 17-20, 2016.
- Ritchie, L., Miles, S.B., Hedley, N., Poland, C., Xiao, Y. (2016) "Data Practices Among

Key Stakeholders following the 2010-2011 Canterbury Earthquakes”, 4th International Conference on Urban Disaster Reduction. Wellington New Zealand. October 2016.

Miles, S.B., Ritchie, L., Hedley, N., Poland, C., Xiao, Y. (2016) “Data Driven Recovery Decision Making after the 2010-2011 Canterbury Earthquakes”, 4th International Conference on Urban Disaster Reduction. Wellington New Zealand. October 2016.

Miles, S.B. (2016) “Megaquake planning must focus on recovery, not just survival”, Crosscut, June 16, 2016, <http://crosscut.com/2016/06/megaquake-planning-must-focus-on-recovery-not-just-survival/>

Miles, S.B., Ritchie, L., Hedley, N., Poland, C., Xiao, Y. (2016) Use of Data for Measuring and Monitoring Recovery following the Canterbury Earthquake Sequence, Earthquake Engineering Research Institute Case Study Report. https://www.eeri.org/wp-content/uploads/NZ-EERI-Resilience-Observatory-Report_2016-02-17.pdf

Miles, S.B. (2014) “It isn’t always ‘Because climate change’”, Natural Hazards Observer, XXXVIII(5), <http://www.colorado.edu/hazards/o/>

Miles, S.B. (2014) “Well-Being of Community Disaster Resilience”, Disaster Research Center 50th Anniversary Workshop. Newark, DE. <http://sites.udel.edu/drc50thanniversary/files/2014/05/Scott-Miles-Resilience-2iehs93.pdf>

Miles, S.B. et al. (2014) “Building Back Better: Case Study of the 2010-2011 Canterbury, New Zealand Earthquake Sequence” Earthquake Engineering Research Institute Learning from Earthquakes Report, 19 pp., https://www.eeri.org/wp-content/uploads/EERI_GFDRR_NZ_BBB.pdf

Miles, S.B. (2014) “Theorizing Community Resilience to Improve Computational Modeling”, International Conference on Vulnerability and Risk Analysis Management, Liverpool, UK, July 2014.

Bartoletti, Stacy, Biasco, B., Miles, S. B., Norman, N., Nourse, K., Schelling, Walsh, T. (2012) “Resilient Washington State: A framework for minimizing loss and improving statewide recovery after an earthquake,” State of Washington Department of Natural Resources Information Circular 114, Olympia, WA, 34 p.

Miles, S.B. (2012) “Socio-technical framework for infrastructure-centric community resilience”, Proceedings of the 9th International ISCRAM Conference – Vancouver, Canada, April 2012 L. Rothkrantz, J. Ristvej and Z. Franco, eds.

Miles, S.B., Gallagher, H., Huxford, C.J. (2012) Quick Response Research on the September 8th, 2011 San Diego Blackout, Natural Hazards Center Quick Response Research Report QR 228.

Miles, S.B. (2011) “Community Disaster Resilience Dependence on Infrastructure” Journal of the Canadian Risk and Hazards Network, 2(3), <http://www.crhnet.ca/>.

Miles, S.B. (2011) “The role of critical infrastructure in community resilience to disasters” Proceedings of the 2011 Structures Congress, Las Vegas, Nevada.

- Miles, S.B. Green, R.A., Svekla, W. (2011) "Actor Network Theory for Determining Urban Disaster Risk Reduction Capacity in Informal Settlements". Abstract. Proceedings of the 2011 Annual Conference of the American Association of Geographers, Seattle, WA.
- Bartoletti, S., Biasco, T., Miles, S.B., Norman, D., Nourse, K., Schelling, J. and Walsh, T. (2011) Resilient Washington State Workshop Report, Washington State Emergency Management Division,
http://www.emd.wa.gov/about/documents/HAZ_RWS_WorkshopReport.pdf
- Miles, S.B. and Gouran, B.D. (2010) Washington State Seismic Mitigation Policy Gap Analysis: A Cross-State Comparison. Western Washington University Resilience Institute Working Paper 2010_4. Prepared Washington State Emergency Management Division.
- Stinson, J. and Miles, S.B. (2010) Report on Earthquake-Induced Landslides, Guatemala City, Western Washington University Resilience Institute Working Paper 2010_3. Prepared for Oxfam Great Britain.
- Renschler, C. S., Frazier, A. E., Miles, S. B. (2010) "Assessing community resilience: A remote sensing approach to evaluate post-disaster ecosystem recovery", *8th International Workshop on Remote Sensing for Disaster Management*, Tokyo Institute of Technology, Tokyo, Japan.
- DesRoches, R., Brink, S, Coats, P, Elnashi, A., Etienne, H., Green, R. Hammer, M., Huyck, C., Irfanoglu, A., Jolibois, S., Lang, A. Lewis, A., Michaud, J., Miles, S., Olshansky, R., and Paultre, P. (2010) The Mw 7.0 Haiti Earthquake of January 12, 2010: Report #2, EERI Special Earthquake Report.
- Green, R., Miles, S.B., Svekla, W. (2009) Assessment in Villa Nueva: Prospects for an Urban Disaster Risk Reduction Program in Guatemala City's Precarious Settlements, Western Washington University Resilience Institute Working Paper 2010_3. Prepared for Oxfam Great Britain.
- Miles, S.B. (2008) "Bellingham Style: It's time for the city to create it's own" Bellingham Herald, guest column, December 21, 2008,
<http://www.bellinghamherald.com/615/story/724911.html>
- Miles, S.B. and Chang, S.E. (2008) "Modeling Community Capital Loss and Recovery" *Proceedings of the 14th World Conference on Earthquake Engineering, Beijing, China (DVD Proceedings)*.
- Green, R.; Miles, S.B.; Gulascik, G; Levy, J. (2008) Business Recovery Related to High-Frequency Natural Hazard Events, Natural Hazards Center Quick Response Report #197, 12 p.
- Miles, S. B. and Chang, S. E. (2007) "A simulation model of urban disaster recovery and resilience: implementation for the 1994 Northridge earthquake", Technical Report MCEER-07-0014, Multidisciplinary Center for Earthquake Engineering Research.
- Miles, S.B., Montgomery, D.R., Beyers, B (2006) "Shut Down the Viaduct" Seattle Times, guest column, March 2nd,
http://seattletimes.nwsourc.com/html/opinion/2002837776_viaduct02.html

- Miles, S.B. (2005) "Consensus on viaduct replacement must meet wide range of interests" *Seattle Post-Intelligencer*, guest column, July 12, http://seattlepi.nwsource.com/opinion/232104_viaduct12.html
- Chang, S.E. and Miles, S.B. (2004) "The dynamics of recovery: A framework." in Y. Okuyama and S.E. Chang, eds., *Modeling the Spatial Economic Impact of Disasters*. Springer-Verlag.
- Miles, S.B. and Chang, S.E. (2004) "Foundations for modeling community recovery from earthquake disasters" 13th World Conference on Earthquake Engineering, Paper 567, Vancouver, B.C.
- Miles, S.B. and Chang, S.E. (2003) *Urban Disaster Recovery: A Framework and Simulation Model*, Multidisciplinary Center for Earthquake Engineering Research Technical Report 03- 0005.
- Chang, S.E. and Miles, S.B. (2003) "Resilient Community Recovery: Improving Recovery Through Comprehensive Modeling", Multidisciplinary Center for Earthquake Engineering Research: Research Accomplishments 2001-2003, <http://mceer.buffalo.edu/publications/resaccom/0103/contents.asp>
- Ho, C.L. and Miles, S.B. (1997) "Deterministic zonation of seismic slope instability: An application of GIS", *American Society of Civil Engineers Special Publication 67: Spatial Analysis in Soil Dynamics and Earthquake Engineering*, pp. 87-102.

CONSULTING EXPERIENCE

- Earthquake Engineering Research Institute, "Thurston County School Seismic Safety Workshop", November 2016.
- Wellington Region Emergency Management Office, "Wellington Disaster Recovery Framework", May 2016 – July 2016.
- Cascadia Region Earthquake Workgroup, "Cascadia Resilience Plan Analysis and Summit", September - December, 2016.
- King County, WA, "Resilient King County", August 2013-July 2014.
- World Bank Global Facility for Disaster Reduction and Recovery, "Build Back Better: Evaluation of 2010-2011 Canterbury, New Zealand Earthquake Recovery," September 2013.
- Earthquake Engineering Research Institute, "A Resilience Observatory for the Canterbury New Zealand Earthquake Sequence of 2010-2011," February 2013.
- Washington State Emergency Management Division, "Resilient Washington State" August 2010 - December 2012.
- University of Washington PCE, "Geographic Information Systems Fundamentals Course Development", October 2006 – January 2007.
- U.S. Army Corps of Engineers / University of Washington, "Futures Without Scenario Planning", September 2006.
- ECO Resource Group, "Model Mediation for Duwamish River Waterway Cleanup", January 2006 – June 2006.

U.S. Geological Survey, “Spatial Modeling of 1906 San Francisco Earthquake-Induced Landslides”, June 2005 – October 2005.

The Consensus Building Institute, “Department of Interior Joint Fact Finding Training Workshop” September 2005.

U.S. Geological Survey, “National Map User Study”, January 2005 – August 2005.

ACADEMIC POSITIONS

Director, Resilience Institute, Western Washington University, August 2010 - September 2015.

Managed state- and externally-funded research and service center with the mission of assisting agencies and conducting research for improving community resilience to natural hazards. Supervised assistant director, administration staff, project managers, and interns.

Supervisor: Dean of Huxley College (Brad Smith, Steven Hollenhorst)

Associate Professor, Western Washington University, January 2007 – September 2015.

Professor of Disaster Reduction and Emergency Planning track within Huxley College of the Environment’s Policy and Environmental Planning major. Courses taught: “Applications of GIS”, “GIS for Environmental Modeling”, “Geography Research and Writing”, “Environmental Dispute Resolution”, “Disaster Risk Reduction”, “Natural Hazards Planning”, “History and Theory of Emergency Management”, and “Disaster Reduction & Emergency Planning Studio.”

Supervisor: Gigi Berardi, Michael Medler

Post-Doctoral Researcher: University of British Columbia, January 2006 – January 2007.

Research supported by the Multi-Disciplinary Center for Earthquake Engineering Research (NSF). Continued development and testing of a computer model of community recovery from disasters using MATLAB computing environment. Model application and evaluation using data from the 1994 Northridge earthquake. Work included training students in the use of the completed model.

Supervisor: Stephanie Chang, School of Community and Regional Planning.

Temporary Lecturer: Massachusetts Institute of Technology, January 2005

Designed and taught course entitled “Modeling Our World For Collaborative Decision Support.” The course explored the intersection of collaborative decision-making and the practice of environmental modeling for planning. It helped students to understand what a model is and the different types of conceptual and computational modeling methodologies. Readings, examples and demonstrations were given to best practices in designing and appropriating models for collaborative planning, focusing on the practice of joint fact finding.

Supervisor: Herman Karl

Post-doctoral Researcher: UW Urban Ecology Research Lab, November 2004 – May 2005.

Responsibilities included developing and evaluating the lab's service mission and research program. Managed several million dollars in research grants and service contracts. Wrote research grant proposals inline with the lab's mission and long-term research program.

Supervisor: Marina Alberti, Department of Urban Planning and Design

Post-doctoral Researcher: University of Washington, March 2004 – September 2004.

Project coordinator for NSF-funded research project investigating internet-based GIS tools for supporting public decisions related to Puget Sound area (WA) transportation improvement projects. Assisted in developing project work plan and personnel allocation. Assisted in design of GIS modeling tools and stakeholder-based usability tests.

Supervisor: Timothy Nyerges, Department of Geography

Lecturer: University of Washington, March 2004 – December 2004.

Taught Geography 460 "Introduction to Geographic Analysis" – the core class within the Department of Geography's GIS program. Refocused existing curriculum to empower students to be analysts within collaborative decision situations and in support of participatory inquiry. Responsibilities included supervision of teaching assistants, course website design, assignment creation, lecturing, liaison between students and non-profits (for service learning project), and grading. Taught Geography 463 "GIS Workshop" – a senior capstone course in GIS project management and application. Refocused existing course for service learning where student groups assess and address needs of local non-profit organizations, including Homewaters Project, Sustainable Seattle, The Nature Conservancy, and Seafair. Responsibilities included supervision of teaching assistants, course website design, assignment creation, lecturing, liaison between students and non-profits, and grading.

Supervisor: J.W. Harrington

Research Assistant: University of Washington, March 2000 – March 2004.

Research supported by the Multi-Disciplinary Center for Earthquake Engineering Research (NSF). Developed conceptual model of community recovery from disasters. Designed and implemented prototype socio-economic recovery simulation using Mathworks MATLAB and ESRI ArcGIS. Conducted literature reviews on spatio-temporal GIS and urban simulation.

Supervisor: Stephanie Chang, Department of Geography (now at Univ. British Columbia).

Teaching Assistant: University of Washington, 1999 - 2000.

Taught laboratory portion of introductory computer cartography course and urban GIS course. Responsibilities included assisting course professor, developing and giving laboratory lectures, student assistance, and student evaluation. Received Department of Geography's Distinguish Teaching Assistant award.

Supervisor: Timothy Nyerges, Department of Geography.

Teaching Assistant: University of Massachusetts, 1996 -1997.

Teaching Assistant: Washington State University, 1996.

Taught laboratory portion of introductory soil mechanics courses, as well as mechanics of materials course. Responsibilities included assisting course professor, developing lesson plans, laboratory preparation, laboratory and class lectures, and student evaluation.

Supervisor: Carlton Ho, Department of Civil and Environmental Engineering.

PROFESSIONAL POSITIONS

Physical Scientist: U.S. Geological Survey Western Region Earthquake Hazards Team, September 1998 – February 2004.

Designed and conducted research on regional seismic-landslide hazard modeling for spatial decision support and group collaboration. Developed new earthquake-induced landslide model using fuzzy logic systems. Produced USGS seismic-landslide hazard maps for the San Francisco Bay Area. Assisted with Nisqually earthquake reconnaissance, including participation on the Federal Emergency Management Agency Landslide Technical Committee to redefine federal disaster-response policy. Assisted with various research projects for Center for Science Policy, including meeting with local watershed councils to assess joint fact-finding needs. As intern/contractor: Designed and managed USGS project for addressing local utilities company requirements for seismic-landslide hazard maps and decision support. Conducted research on assessing GIS-based earthquake-landslide models. Investigated the influence of different models and hazard maps on disaster planning and decision-making.

Supervisor: David Keefer, retired.

PUBLIC SPEAKING

2018 (July) Natural Hazards Workshop, “Moonshots: Ideas to Change the World of Hazards and Disasters”

2018 (July) Natural Hazards Workshop Researchers Meeting “Human-Centered Design of a Disaster Reconnaissance Field App”

2018 (June) 11th National Conference on Earthquake Engineering , “Human-Centered Simulation for Analytic-Deliberative Seismic Resilience Planning”

2018 (June) 11th National Conference on Earthquake Engineering, "Designing a Disaster Reconnaissance Field App with a User-Centered Approach”

2017 (November) University of Washington Civil and Environmental Engineering “Sociotechnical performance of Mexico City’s earthquake early warning system”

2017 (April) University of Washington M9 Seminar Series, “Theorizing, Modeling, Visualizing Community Disaster Resilience”

2017 (January) American Meteorological Society Annual Meeting, “Mixed-Methods Simulation Model Development”

2016 (November) University of Washington Department of Human Centered Design and Engineering seminar, “Data Practices Among Key Stakeholders following the 2010-2011 Canterbury Earthquakes”

2016 (October) 4th International Conference on Urban Disaster Reduction, “Data

Practices Among Key Stakeholders following the 2010-2011 Canterbury Earthquakes”

- 2016 (February) People in Disasters Conference, Christchurch, New Zealand, “A Community Well-Being Centric Approach to Disaster Resilience”
- 2016 (January) ASCE Seattle Section Annual Meeting, “Cascadia Region Seismic Resilience Initiatives”
- 2015 (February) New Zealand Emergency Management Summit, Wellington, New Zealand, Invited speaker, “Insights of Disaster Recovery”
- 2014 (September) 3rd International Conference on Urban Disaster Reduction, Boulder, CO, “Interpreting Canterbury’s Recovery”
- 2014 (July) 10th National Conference on Earthquake Engineering, Anchorage, AK, “Modeling and Visualizing Infrastructure-Centric Community Disaster Resilience”
- 2014 (July) 10th National Conference on Earthquake Engineering, Anchorage, AK, “Theorizing Community Resilience to Earthquakes”
- 2014 (June) Kavli Frontiers of Science Indonesian-American Symposium, Medan, Indonesia, Invited speaker, “Disaster Research”
- 2014 (May) International Living Future Institute unConference, Portland, OR, “Theorizing Community Resilience to Better Implement It”
- 2014 (April) WASLA & WRPA Joint Conference, Seattle, WA, “Holistically Understanding Community Resilience to Better Implement It.”
- 2014 (May) Disaster Research Center 50th Anniversary Workshop, Newark, DE, “Theorizing Community Resilience to Better Implement It”
- 2013 (July) International Research Committee on Disasters Conference, Broomfield, CO, “Theorizing Community Resilience.”
- 2013 (July) Natural Hazards Workshop, Broomfield, CO, “Impacts and Restoration of the 2011 San Diego Power Outage.”
- 2013 (May) Living Future Government Confluence, Seattle, WA, “Holistically Understanding Community Resilience to Better Implement It.”
- 2013 (February) Earthquake Engineering Research Institute Annual Meeting, Seattle, WA, “Creating a Science of Community Resilience to Better Model It.”
- 2012 (April) University of Tokyo Department of Environmental Studies colloquium, “Role of Infrastructure in Community Disaster Resilience.”
- 2012 (April) University of Tokyo Department of Civil Engineering colloquium, “Role of Infrastructure in Community Disaster Resilience.”
- 2012 (March) Ohio State University colloquium, “Role of Infrastructure in Community Disaster Resilience.”
- 2011 (September) Testimony for Seattle City Council (Seattle, WA) “Resilience Planning for Municipalities.”
- 2011 (July) 2nd Conference of the International Society for Integrated Disaster Risk

- Management Society (Los Angeles, CA), "Infrastructure and Mega-City Disaster Resilience."
- 2011 (July) Natural Hazards Workshop (Broomfield, CO), "Assessing Resilience" (w/ Susan Cutter, John Schelling, Pam Jakes, and John Handmer).
- 2011 (April) Structures Congress (Las Vegas, NV), "The Role of Critical Infrastructure in Community Resilience to Disasters," 2011
- 2011 (April) Annual Conference of the American Association of Geographers (Seattle, WA), "Actor Network Theory for Determining Urban Disaster Risk Reduction Capacity in Informal Settlements".
- 2010 (November) Washington State Seismic Safety Committee (Lakewood, WA), "Washington State Seismic Mitigation Policy Gap Analysis: A Cross-State Comparison."
- 2010 (October and December) City of Bellingham City Council Chambers, "City of Bellingham Capital Facilities Task Force Report"
- 2009 (February) National Academy of Science Disaster Roundtable (Davis, CA) "Interaction between Elements of Community Capital during Disasters"
- 2008 (October) 14th Annual World Conference on Earthquake Engineering (Beijing, China), "Modeling Community Capital Loss and Recovery"
- 2008 (July) Natural Hazards Workshop (Broomfield, CO), "Defining and Developing Disaster Resilience" (w/ Dennis Mileti, Louise Comfort, Fran Norris, and Monica Schoch-Spana)
- 2008 (July) Society of Human Ecology (Bellingham, WA) "Resilience and the Politics of Place"
- 2008 (January) Huxley College of the Environment Speaker Series, Western Washington University, "Is Environmentalism Dead? If So, What Next?"
- 2007 (December) Department of Geology Guest Lecture Series, Western Washington University, "A Comprehensive Model of Earthquake-induced Landslides Using Fuzzy Logic"
- 2007 (December) 2nd International Conference on Urban Disaster Reduction, Taipei, Taiwan, "A Comprehensive Model of Earthquake-induced Landslides Using Fuzzy Logic"
- 2007 (November) 4th Canadian Risk and Hazards Network Symposium, Vancouver, BC, "Modeling Community Recovery From Disasters: An Application to the 1995 Northridge Earthquake"
- 2007 (November) 2nd Northwest Critical Geography Mini-Conference, Bellingham, WA, "The Risk Tripartite: Space, Place, and Technology"
- 2006 (October) Department of Environmental Studies Seminar, Western Washington University, "Hazard and Risk Modeling in the Context of Vulnerability, Complexity, and Democracy"
- 2006 (April) WA Partners in Preparedness Conference, Tacoma, WA, "Earthquake- and

- Rainfall-Induced Landslides: A Puget Sound Perspective” (w/ David Montgomery)
- 2005 (May) City of Seattle brownbag forum, “Transforming the Seattle Way” (with Councilman Richard Conlin, Dr. Mark Purcell, and Karma Ruder)
- 2004 (August) Geohazards Team Seminar, Oregon Department of Geology and Mineral Industries, “A Comprehensive Areal Model of Earthquake-induced Landslides”
- 2004 (April) Department of Geography Colloquium, University of Washington, “Participatory Model Assessment”
- 2004 (February) Department of Geography Ph.D. Final Examination, University of Washington, “Participatory Assessment of a Comprehensive Areal Model of Earthquake-induced Landslides (CAMEL)”
- 2003 (June) Seminar, California Geological Survey, “Occurrence and Regional-Scale Modeling of the Different Types of Earthquake-Induced Landslides”
- 2002 (March) Multidisciplinary Center for Earthquake Engineering Research Annual Meeting, Buffalo, NY, “A simulation for exploring the dynamics of recovery”
- 2001 (September) U.S. Geological Survey Landslide Program Workshop, Portland, OR, “Modeling landslide risk: What can we do?”
- 2001 (March) Department of Geography Colloquium, University of Washington (with Stephanie Chang), “Nisqually earthquake effects”
- 2001 (February) Department of Anthropology Graduate Seminar, University of Washington, “Towards policy-relevant environmental modeling: Modeling practice and pragmatic models”
- 2001 (January) Science Studies Program Seminar, University of California - San Diego, “In search of good models: A tangled tale of the environment, technology and validity”
- 2000 (October) Department of Geography Colloquium, University of Washington, “In search of good models: A tangled tale of the environment, technology and validity”
- 2000 (July) International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Amsterdam, “A case study in GIS-based environmental model validation using earthquake-induced landslide hazard”
- 1999 (November) Geological Society of America Annual Meeting, Denver, CO, “Newmark displacement models for seismic slope-performance zonation”
- 1999 (February) Geotechnical Engineering Seminar, University of Massachusetts - Amherst (with David Keefer) “The occurrence and evaluation of earthquake-induced landslides”
- 1999 (August) 5th U.S. Conference on Lifeline Earthquake Engineering, Seattle, WA, “Seismic landslide hazard analysis: From hazard map to decision support system”
- 1998 (October) U.S. Geological Survey Western Region Earthquake Hazards Team Seminar, Menlo Park, CA, “Deterministic zonation of seismic slope instability: An application of GIS”
- 1997 (November) Department of Geography Seminar, University of Edinburgh,

“Deterministic zonation of seismic slope instability: An application of GIS”

1997 (August) Department of Civil Engineering Seminar, University of Massachusetts - Amherst, “Deterministic zonation of seismic slope instability: An application of GIS”

PEER REVIEWS

- National Science Foundation Infrastructure Management and Extreme Events (7 panels)
- Applied Geography
- Computer-Aided Civil and Infrastructure Engineering
- Computers and Geosciences
- Disasters Journal
- Engineering Geology
- Environmental Innovations and Social Transitions
- International Journal of Disaster Risk Reduction
- Journal of American Planning Association
- Journal of Disaster Research
- Journal of Structural Engineering
- Natural Hazards
- Natural Hazards and Earth Systems Sciences
- Natural Hazards Review
- Risk Analysis
- Soil Dynamics and Earthquake Engineering
- Journal of Sustainability