

Curriculum Vitae (Updated May 2019)

Keri L. Ryan, Ph.D.
Associate Professor
Dept. of Civil and Environmental Engineering
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Professional Preparation

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| University of California, Berkeley, CA Ph.D. in Structural Engineering, Mechanics and Materials Dissertation: "Estimating the Seismic Response of Base-Isolated Buildings Including Torsion, Rocking, and Axial Lead Effects" | 2004 |
| University of California, Berkeley, CA M.S. in Structural Engineering, Mechanics and Materials | 1999 |

Teaching Experience at University of Nevada, Reno

CEE 120: Civil Engineering in a Sustainable Society
Offered Spring 2014-2016
Typical Enrollment: 90-150

CEE 372: Mechanics of Solids
Offered Spring 2011, Fall 2012-2015, Spring 2015
Typical Enrollment: 100-150

CEE 381: Structural Analysis
Offered Fall 2012, 2017, 2018
Typical Enrollment: 30-100

CEE 482/682: Design of Timber Structures
Offered Spring 2019
Enrollment: 32

CEE 486/686: Computational Structural Analysis
Offered Fall 2017, 2018
Enrollment: 6-12

CEE 704: Finite Element Analysis
Offered Spring 2012, 2014
Typical Enrollment: 6-2

CEE 721: Nonlinear Structural Analysis
Offered Spring 2013, Fall 2014, Spring 2018
Typical Enrollment: 6-2

CEE 724: Elasticity
Offered Fall 2010
Enrollment: 11

Teaching Experience at Utah State University

CEE 6130: Structural Dynamics and Seismic Design
Offered Every Fall 2004 – 2009
Typical Enrollment: 10-15

CEE 6930/6010: Finite Element Analysis of Structures
Offered Spring 2006, 2008-2010
Typical Enrollment: 10-15

CEE 3010: Mechanics of Materials
Offered Fall 2006 – Fall 2009
Typical Enrollment: 60-70

CEE 7110: Constitutive Modeling and Structural Response
Offered Spring 2007, Fall 2010
Typical Enrollment: 35

CEE 6930: Nonlinear Structural Analysis
Offered Spring 2005
Typical Enrollment: 35

CEE 6930: Seismic Resistant Design
Offered Spring 2010
Enrollment: 10

Graduated Advisees (Major Advisor Role for Research)

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| Walaa Eltahawy | Ph.D. | 2018 |
| Stephen Blount | M.S. with Thesis | 2018 |
| Sevki Cesmeci | Ph.D. (Co-advisor) | 2017 |
| Leanne White | M.S. with Thesis | 2017 |
| Jean Guzman Pujols | Ph.D. | 2016 |
| Jared Jones | M.S. with Thesis | 2016 |
| Camila Coria | Ph.D. | 2015 |
| Hamed Zargar | Ph.D. | 2015 |
| Jean Guzman Pujols | | |

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Ronaldo Grijalva Alvarado

M.S.

Incoming F19

Refereed Journal Publications

Eltahawy, Walaa, Ryan, Keri L

Cutfield, Matt R., Ryan, Keri L., Ma, Quincy. "Comparative life cycle analysis of conventional and base-isolated buildings", Earthquake Spectra EERI, 32(1):323-343. <http://dx.doi.org/10.1193/032414EQS0402016>.

Guzman Pujols, Jean C., Ryan, Keri L. "Development of generalized fragility functions for seismic induced content disruption" Earthquake Spectra, EERI, 32(3):1303-1324. <http://dx.doi.org/10.1193/081814EQS1303015>.

Ryan, Keri L., Soroushian, Siavash, Maragakis, E. Manoş Sato, Eiji, Sasaki, Tomohiro, Okazaki, Taichiro "Seismic simulation of an integrated ceiling-partition wall-piping system at E-Defense I: Three-dimensional structural response and base isolation", Journal of Structural Engineering ASCE, 142(2):0401301, [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001384](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001384) 2015

Soroushian, Siavash, Maragakis, E., Manoş Sato, Eiji, Sasaki, Tomohiro, Okazaki, Taichiro, Mosqueda, Gilberto "Seismic simulation of an integrated ceiling-partition wall-piping system at E-Defense. ITG 2PJ - 6 SimTc iP (b-e. 87c iPmntu (e) 022 S (/)-2o n v (a)-3pTj

Ryan, Keri L. and Chopra, Anil K.

Earthquake Engineering Earthquake Engineering Research Institute, Los Angeles, CA. June 2018.

Ryan, K. L., Button, M.R, Mayes, R.L. "ASCE 7-16 lateral forces for static design of baseisolated buildings", Eleventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA. June 2018.

Hasani, H., Ryan, K., Amer, A., Ricles, J., Sause, R. "Pre-test seismic evaluation of drywall partition walls integrated with a timber rocking wall", Eleventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA. June 2018.

Moustafa, M. A., Joe, Christopher D., Ryan, Keri "Seismic design and performance of ultra-high performance concrete bridge bents Proc., AFGC-ACI-fib-RILEM Int. Symposium on Ultra High Performance Fibre-Reinforced Concrete (UHPC) October 2017.

Ryan, K. L. Coria, C. B. "Influence of base frame/stiffness on seismic loading of hybrid isolation systems", Proc., 2017 New Zealand Society for Earthquake Engineering (NZSEE) Conference and Anti-Seismic Systems International Societyth 16th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures April 2017. Peer Reviewed.

Pei, S., van de Lindt, J. W., Ricles, J. Sause, R., Berman, J., Ryan, K., Doka, J.D., Buchanan, A., Robinson, T., McDonnell, E., Blomgren, H., Popovski, M., Rammer, D. "Development and fullscale validation of resilience based seismic design of tall wood buildings: the NHERI Tall Wood Project", Proc., 2017 New Zealand Society for Earthquake Engineering (NZSEE) Conference and Anti-Seismic Systems International Society 16th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures April 2017. Peer Reviewed.

Eltahawy, W. Ryan, K., Cesmeci, C., Gordaninejad, F. "Fundamental dynamics of 3-dimensional seismic isolation", Proc., 16th World Conference on Earthquake Engineering, Paper No. 1508, Chilean Association of Seismology and Earthquake Engineering, Santiago, Chile, January 2017. Peer Reviewed.

Ryan, K., Zargar, H., Marshall, J., Rawlinson, T. "Experimental validation of a gap damper to control the displacement demands in a seismically isolated building", Proc., 16th World Conference on Earthquake Engineering, Paper No. 1508, Chilean Association of Seismology and Earthquake Engineering, Santiago, Chile, January 2017. Peer Reviewed.

Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Guzman, J. C., Ryan, K. L. "Experimental Study of Target Demands to Minimize Seismic Induced Content Disruption" Proc., 10th U.S. National Conference on Earthquake Engineering Earthquake Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Cutfield, M. R., Ryan, K. L., Ma, Q. T. "NEES TIPS Project: A Case Study Cost-Benefit Analysis on the Use of Base Isolation in a Low-Rise Office Building", Proc., 10th U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Okazaki, T., Sato, E., Ryan, K. L., Sasaki, T., Mahin, S. "Performance of Triple Pendulum Bearings in a Full Scale Shake Table Test Program" Proc., 10th U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Coria, C. B., Ryan, K. L. "Response of Hybrid Isolation System during a Shake Table Experiment of a Full Scale Seismically Isolated Building" Proc., 10th U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Zargar, H., Ryan, K. L., Marshall, J. D., Rawlinson, T. "The Effects of Residual Displacement on Gap Damper Performance", Proc., 10th U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, July 2014. Peer Reviewed.

Masroor, A., Sanchez, J., Mosqueda, G., Ryan, K. L. "Dynamic Stability of Elastomeric Bearings at Large Displacements", Proc., 15th World Conference on Earthquake Engineering Portuguese Society for Earthquake Engineering, Lisbon, Portugal, September 2012, Peer Reviewed.

Zargar, H., Ryan, K. L., Rawlinson, T., Marshall, J. D. "Exploring the Gap Damper Concept to Explore Seismic Isolation Displacement Demands", Proc., 15th World Conference on Earthquake Engineering, Portuguese Society for Earthquake Engineering, Lisbon, Portugal, September 2012, Peer Reviewed.

Sasaki, T., Sato, E., Ryan, K. L., Okazaki, T., Mahin, S. A., Kajiwara, K. "NEES/E-Defense Base Isolation Tests: Effectiveness of Friction Pendulum and Rubber Bearing Systems", Proc., 15th World Conference on Earthquake Engineering, Portuguese Society for Earthquake Engineering, Lisbon, Portugal, September 2012, Peer Reviewed.

Ryan, K. L., Dao, N. D., Sato, E., Sasaki, T., Okazaki, T. "NEES/E-Defense Base-Isolation Tests: Interaction of Lateral and Vertical Response", Proc., 15th World Conference on Earthquake Engineering, Portuguese Society for Earthquake Engineering, Lisbon, Portugal, September 2012, Peer Reviewed.

Okazaki, T., Sato, E., Sato, T., Sasaki, T., Kajiwara, K., Ryan, K. L., Mahin, S. "NEES/E-Defense Base Isolation Tests: Performance of Triple Pendulum Bearings", Proc., 15th World Conference on Earthquake Engineering, Portuguese Society for Earthquake Engineering, Lisbon, Portugal, September 2012, Peer Reviewed.

Soroushian, S., Ryan, K. L., Maragakis, E., Wieser, J., Sasaki, T., Sato, E., Okazaki, T.,

Erduran, E. and Ryan Keri L. "Torsional behavior of steel braced frames" Proc., 9th U.S. National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010, Peer Reviewed

Mosqueda, G., Masroor, A., Sanchez, J. and Ryan K. "Performance limit states of seismically isolated buildings with elastomeric bearings" Proc., 9th U.S. National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010, Peer Reviewed

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Ryan, Keri L. and Chopra, Anil K. "Overturning response of base-isolated building considering bearing axial-load effects", 9th World Seminar on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures/Anti-Seismic Systems International Society, Kobe, Japan, June 13-16, 2005.

Ryan, Keri L., Kelly, James M. and Chopra, Anil K. "Experimental observation of axial load effects in isolation bearings", Paper No. 1707. 13th World Conference on Earthquake Engineering, Canadian Association for Earthquake Engineering, Vancouver, British Columbia, Canada, 2004.

Ryan, Keri L. and Chopra, Anil K. "Nonlinear response spectra for isolated buildings", ASCE Structures Congress, Seattle, WA, 2003. Peer Reviewed.

Hall, John F. and Ryan, Keri L. "Near source effects and the isolation provisions of the 1997 UBC", ASCE Structures Congress, New Orleans, LA, 1999.

Ryan, Keri and Hall, John F. "Aspects of building response to near source ground motions", Structural Engineers World Congress, San Francisco, CA, 1998.

Published Research Reports

White, Leanne, Ryan, Keri and Buckle, Ian. Thermal Gradients in Southwestern United States and the Effect on Bridge Bearing Loads. CCEER Report No. C7. Center for Civil Engineering Earthquake Research, University of Nevada, Reno, 2017.

Guzman Pujols, Jean C., and Ryan, Keri L. Slab Vibration and Horizontal/Vertical Coupling in the Seismic Resped Rsne

Engineering Earthquake Research, University of Nevada, Reno, 2013.
<http://www.unr.edu/cceer/publications/2013/13->

Mohebbi, Aireza., Ryan, Keri L., Sanders, David H. Seismic Response of a Highway Bridge with Structural Fuses for Seismic Protection of Piers. CCEER Report No. 13-18. Center for Civil Engineering Earthquake Research, University of Nevada, Reno, 2013.
<http://www.unr.edu/cceer/publications/2013/13->

Ryan, Keri L., Coria, Camila B., Dao, Nhan D. Large Scale Earthquake Simulation of a Hybrid Lead Rubber Isolation System Designed with Consideration of Nuclear Seismicity, CCEER Report No. 13-9. Center for Civil Engineering Earthquake Research, University of Nevada, Reno, 2013. <http://www.unr.edu/cceer/publications/2013/13-9>

Ryan, Keri L. and Richins Brian. Design, Analysis and Performance Evaluation of a Hypothetical Seismically Isolated Bridge on Legacy Highway, Report No. UT11.01, Utah Department of Transportation, 2011.

Hu, Wenying and Ryan Keri L. Exploratory Study of Partial Isolation of Highway Bridges Report No. UT-11.03, Utah Department of Transportation, 2011.

Wilson, Nash and Ryan Keri L. Seismic Retrofit Guidelines for Utah Highway Bridges Report No. UT-09-06, Utah Department of Transportation, 2009.

Shafieezadeh, Abdollah, Hu, Wenying, Erdur Emrah and Ryan, Keri L. Seismic Vulnerability Assessment and Retrofit Recommendations for State Highway Bridges: Case Studies Report No. UT-09-08, Utah Department of Transportation, 2009.

Ryan, Keri L. and Chopra Anil K. Estimating the Seismic Response of Isolated Buildings Including Torsion, Rocking, and Axial Load Effects EERC Rep. No. 2006-1, Earthquake Engineering Research Center, University of California, Berkeley, CA, 2005.

Published Datasets

Zargar, Hamed Ryan, Keri. "System Test of a Base Isolated Building", Network for Earthquake Engineering Simulation (distributor), Dataset, 2015, DOI:10.4231/D37W6766.

Zargar, Hamed, Ryan Keri. "System Test of a Base Isolated Building with Gap Damper", Network for Earthquake Engineering Simulation (distributor), Dataset, 2015, DOI:10.4231/D3445HD26.

Rawlinson, Taylor Marshall, Justin Ryan, Keri, Zargar Hamed (2014). "Component Test of a Gap Damper System to Control Isolator Displacements in Extreme Earthquakes", Network for Earthquake Engineering Simulation (distributor) Dataset, DOI:10.4231/D30V89J0P.

Becker, T., Mahin, S., Neighbor, W., Ryan, K. L. Bi-Directional Characterization of Triple Friction Pendulum Isolators Network for Earthquake Engineering Simulation Database, 2013, 2013, DOI:10.4231/D3R20RW69.

Ryan, K. L., Sato, E., Sasaki, T., Okazaki, T., Guzman, J., Dao, N., Soroushian, S., Coria, C. Full Scale 5 story Building in Fixed Base Condition at Defense. Network for Earthquake Engineering Simulation Database, 2013, DOI:10.4231/D3NP1WJ3P.

Ryan, K. L., Sato, E., Sasaki, T., Okazaki, T., Guzman, J., Dao, N., Soroushian, S, Coria, C. Full Scale 5story Building with LRB/CLB Isolation System at Defense. Network for Earthquake Engineering Simulation Database, 2013, DOI:10.4231/D3SB3WZ43.

Ryan, K. L., Sato, E., Sasaki, T., Okazaki, T., Guzman, J., Dao, N., Soroushian, S, Coria, C. Full Scale 5story Building with Triple Pendulum Bearings at Defense Network for Earthquake Engineering Simulation Database, 2013, DOI:10.4231/D3X34MR7R.

Presentations at Professional Meetings

“NHERI Tall Wood Project: Full scale seismic test of a 10 story mass timber building in 2020”, NHERI@UC San Diego 4th Users Training Workshop, San Diego, CA (presentation given remotely), Dec. 14, 2018.

“Influence of Vertical Ground Shaking on Design of Bridges Isolated with Friction Pendulum Bearings”, PEER Researchers’ Workshop, Richmond, CA, August 8, 2018.

“Exterior Facades”, Vertically Distributed Nonstructural Components (vNCS) Workshop, University of California, San Diego, July 18, 2018.

“ASCE 7-16 Lateral Forces for Static Design of Base Isolated Buildings”, Eleventh U.S. National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA, June 26, 2018.

“Lessons Learned from 3D Shake Table Testing of a Full Scale Seismically Isolated Building”, Retirement Symposium and Celebration of the Career of Anil K. Chopra, Berkeley, CA, Oct. 2, 2017.

“Experimental Evaluation of Alternative Low Damage Solutions for Reinforced Concrete Walls” (Poster Presentation, with Stephen Blount, Richard Henry, Yiqiu Lu, Zhibin Li, Kenneth Elwood), 2017 QuakeCoRE Annual Meeting, Taupo, New Zealand, Sept. 4-2017.

“Development and Full Scale Validation of Resilience Based Seismic Design of Tall Wood Buildings: the NHERI Tall Wood Project”, 2017 New Zealand Society for Earthquake Engineering (NZSEE) Conference and Anti-Seismic Systems International Society 15th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Wellington, New Zealand, April 29, 2017.

“Influence of Base Frame/Sub Stiffness on Seismic Loading of Hybrid Isolation Systems”, 2017 New Zealand Society for Earthquake Engineering (NZSEE) Conference and Anti-Seismic Systems International Society 15th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Wellington, New Zealand, April 28, 2017.

“Experimental Validation of a Gap Damper to Control the Displacement Demands in a Seismically Isolated Building” (Poster Presentation), 16th World Conference on Earthquake Engineering, Santiago, Chile, January 12, 2017. W5 Td <00BE>Tj /TT0 1 Tf 0.795 0

“Horizontal-Vertical Coupling of a Building Frame System in Shake Table Testing to 3D Motions” (Poster Presentation), QuakeCoRE Annual Meeting, Taupo, NZ, Sept. 2016.

“Lessons Learned from 3D Shake Table Testing of a Full Scale Seismically Isolated Building”, EERI Annual Meeting, San Francisco, CA, April 8, 2016.

“Active Learning and Engagement in Solid Mechanics”, 2015 ASEE Annual Conference and Exposition, Seattle, WA, June 15, 2015.

“Influence of Vertical Excitation in the NEES/E-Defense Base Isolation Tests”, 10th U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 24, 2014.

“Future Directions in Seismic Protective Systems Research”, NEES/E-Defense Planning Meeting, Kyoto, Japan, Dec. 12, 2013.

“Overview of NEES/E-Defense Test Program” (with Camila Coria), NEES TIPS Wrap Workshop: Taking Stock of What We’ve Learned, San Diego, CA, September 18, 2013.

“Influence of Vertical Excitation in the E-Defense Tests”, NEES TIPS Wrap Workshop: Taking Stock of What We’ve Learned, San Diego, CA, September 18, 2013.

“Influence of Vertical Excitation and the Response of Nonstructural Systems in the NEES/E-Defense Base Isolation Tests”, NEES Quake Summit 2013, Reno, NV, August 8, 2013.

“NEES E-Defense Base Isolation Tests: Interaction of Horizontal and Vertical Response”, 15th World Conference on Earthquake Engineering, Lisbon, Portugal, Sept. 26, 2012.

“NEES E-Defense Tests: Seismic Performance of Ceiling/Sprinkler Piping Nonstructural Systems in Base Isolated and Fixed Base Buildings”, 15th World Conference on Earthquake Engineering, Lisbon, Portugal, Sept. 26, 2012.

“NEES TIPS/E-Defense Tests of a Full Scale Base Isolated and Fixed Base Building”, NEES Quake Summit 2012, Boston, MA, July 12, 2012.

“Aspects of Isolation Device Behavior Observed from Full Scale Testing of an Isolated Building at E-Defense”, 2013 EP1 (n)3

“Lessons Learned from 3D Shake Table Testing of a Full Scale Seismically Isolated Building”, Colorado School of Mines, November 11, 2017.

“Lessons Learned from 3D Shake Table Testing of a Full Scale Seismically Isolated Building”, Oregon State University, November 10, 2016.

“Lessons Learned from 3D Shake Table Testing of a Full Scale Seismically Isolated Building”, NZSEE Traveling Lectures sponsored by New Zealand Society for Earthquake Engineering Presentations in Auckland, Christchurch, and Wellington, New Zealand, September 2016. Archived seminar link: <https://www.nzsee.org.nz/library/past-seminars/2016/prof-keri-ryan-3-dimensional-shake-table-testing-of-a-full-scale-seismically-isolated-building/>

“NEES Research Impact on Structural Engineering: Value of International Collaborations”, Panelist for Themed Session 10th U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014.

“From Large Scale Test Findings to Cost Benefit Analysis of Base Isolated Buildings” (with Anthony Giammona, Gilberto Mosqueda, and Stephen Mahin, Presentation was webcast and archived), NEES/EERI Research to Practice Webinar Series, November 20, 2013.

“Exploratory Study of Structural Fuses to Protect Columns of Monolithic Bridges”, Nevada Department of Transportation, Carson City, NV, April 25, 2013.

“Early Observations from the NEES TIPS/Defense Collaborative Test Program on Innovative Seismic Isolation Solutions”, (Presentation was webcast and archived), SEMM Seminar at University of California, Berkeley, CA, October 24, 2011.

“NEES/E-Defense Test Program, Objectives and Overview”, NEES/E-Defense Collaborative Earthquake Engineering Research Program Planning Meeting, Tokyo, Japan, August 26, 2011.

“Making the Case for High Seismic Performance”, Summer Residents at Oak Ridge Apartments, Logan, UT, June 23, 2010.

“Modeling and Performance Evaluation of Conventional and Base Isolated Theme Buildings”, University of Nevada, Reno, NV, February 19, 2010.

“Modeling and Performance Evaluation of Conventional and Base Isolated Theme Buildings”, Forell-Elsesser Engineers, San Francisco, CA, January 29, 2010.

“Comparative Life Cycle Performance Assessment of Conventional and Seismic Isolated Buildings”, JSSI 15th Anniversary Symposium, Tokyo, Japan, September 16, 2009.

“Response Control in the U.S. and Introduction to NEES TIPS”, CIB/W114 Workshop on Response Control and Seismic Isolation of Buildings, Nanjing, China, November 17, 2008.

“Modeling and Characterization of Base Isolation Systems for Estimation of Seismic Response”, Civil Engineering Seminar, California Institute of Technology, May 25, 2006.

Funded Projects

US Forest Service Wood Innovation Fund, “Advancing Tall Mass Timber Buildings

through Seismic Resilience Testing”, Under Contract, Expected Timeline: 07/01/2019 – 06/30-2022, PrincipalInvestigator, \$250,000.

Department of Energy through subcontract from Los Alamos National Laboratory,

National Science Foundation, "Three Dimensional Isolation System for Building Resilience to Earthquake Hazard", 08/01/2014-07/31/2018, Principal Investigator, \$359,132.

"Full Scale Seismic Isolation Test Program and Defense Collaboration of NEES TIPS/NEES Nonstructural/NIED August 2011, Principal Investigator, U.S. side funding from 3 projects below and about \$1 million in industry contributions from 8 different companies.

Nuclear Regulatory Commission, "Large Scale Simulation of a Base Isolated Structure with Elastomeric Bearings to Extreme Earthquakes", 08/30/2011-15/13, Principal Investigator, \$280,463.

National Science Foundation, "Collaborative Research: An Innovative Gap Damper to Control Seismic Isolator Displacements in Extreme Earthquakes", 07/01/11-06/30/15, Principal Investigator, \$199,994.

National Science Foundation, "NEES/NSF: Simulation of the Seismic Performance of Nonstructural Systems, Supplement for Defense Tests", Supplement awarded February 2011, Unofficial Co-Principal Investigator, \$210,000.

Utah Department of Transportation "Seismic Isolation Bearings for Accelerated Bridge Construction", 04/01/08-04/30/10, Principal Investigator, \$63,305.

National Science Foundation, NEES Research "NEES/NSF: TIPS: Tools to Facilitate Widespread Use of Isolation and Protective Systems, a NEES/NSF Defense Collaboration", 10/01/07-09/30/13 Principal Investigator, leading team of 5, \$1,709,999 (with \$100,000 supplement awarded August 2010 and \$60,000 supplement awarded July 2012).

National Science Foundation through USU's Advance Program, "Transitional Support", 05/01/07-06/30/09, Principal Investigator, \$14,500.

Utah Department of Transportation, "Evaluation of Bridges for Seismic Retrofit", 09/01/06-08/31/08, Principal Investigator, \$50,123 with Utah Transportation Center match of \$61,123.

National Science Foundation through USU's Advance Program, "Collaborative Grant Support: Performance Based Engineering of Base Isolated Buildings", 01/01/05-12/31/05, Principal Investigator, \$7580.

Awards and Fellowships

NEES Outstanding Contributor Award in the category of Outstanding Project Curation. For curation of the project TIPS Tools to Facilitate Widespread Use of Isolation and Protective Systems in the NEES Project Warehouse. Awarded in 2014.

Travel Award to attend 10th Planning Meeting for NEES/NSF Defense Collaboration Kyoto, Japan, Dec. 1-13, 2013.

Travel Award to attend 9th International Conference on Urban Earthquake Engineering and 4th Conference on Earthquake Engineering, Tokyo, Japan, March, 2012.

JSPS Fellowship for Research in Japan Short Term, Japan Society for the Promotion of Science. Funded travel to Japan in August-September 2011.

Research featured in USU Research Calendar for 2009.

Million Dollar Dinner, Recognized for earning more than \$1 million in sponsored projects for FY08.

NEES Travel Award to attend 6th Planning Meeting for NEES/Defense Collaboration E-Defense, Miki City, Japan, Sept.-27, 2007.

NACADA Outstanding New Advisor Certificate of Merit Faculty Academic Advising 2007.

USU Outstanding New Advisor Award Faculty Academic Advising 2006

Participant and Travel Award to attend NSF WEE-06 Workshop for the Advancement and Retention of Underrepresented and Minority Engineering Educators, Arlington, VA. March 5-8, 2006.

NEES Young Researcher Travel Award to attend the Fourth NEES Annual Meeting, June 21-23, 2006.

Dean's College of Engineering Merit Based Fellowship, UC Berkeley, 2003.

National Science Foundation Graduate Research Fellowship, 1998-1999

Structural Engineers Association of Southern California Auxiliary Outstanding Student Award, 1998.

Donald S. Clark Award, Caltech, 1997.

Summer Undergraduate Research Fellowship, Caltech, 1997.

Doris S. Perpall Speaking Competition 1st Place, Caltech, 1997.

Structural Engineers Association of Southern California Auxiliary Outstanding Student Award, 1997.

Summer Undergraduate Research Fellowship, Caltech, 1996.

Professional Memberships

Co-organized the Vertically Distributed Nonstructural Components (vNCS) Workshop, University of California, San Diego, July 18, 2018.

Coordinator of Conversation with Former Students and Colleagues for EERI Oral History: Anil K. Chopra, 2018-2019.

Editorial Board Member for Earthquake Engineering and Structural Dynamics Appointment commencing July 2018.

Chaired the Overall Organizing Committee and Fundraising Committee for Retirement Symposium and Celebration of the Career of Anil K. Chopra, Oct. 2017. Oversaw all aspects of organization; emceed the main event.

Member of Center for Infrastructure Education and Transformation, 2016. A collaboration of faculty in civil engineering departments to share resources for teaching infrastructure, and develop a model infrastructure course. Led the development of a model lesson in engineering communication. Participated in summer workshops in 2014, 2015 and 2016.

Participant of Community Development of a Large Scale Seismically Excited Building Testbed in conjunction with 2nd NHERI@UCSD 2nd User Training Workshop for the Large High Performance Outdoor Shake Table (LHPOST), Dec. 12-13, 2016.

Participant of Design Safe User Requirements Workshop Objective was to obtain requirements from the Natural Hazards Engineering research community Design Safe cyberinfrastructure and facilitate collaboration among the expanded NHERI community

obstacles to seismic isolation and develop a plan to make such systems attractive to nonengineers

Co-organized NEES/Defense Blind Analysis Contest for full scale base isolation tests in 2011. I helped announce and advertise the contest, prepare the solution, and archive the solution on NEEShub.

Coordinated and moderated NEES/Defense Isolation and Control Working Group, 2009-2011. Moderated group discussions during general planning meetings in 2009 and 2010. I organized a special meeting of the ICWC held in conjunction with the EERI Annual Meeting in 2011.

Organized conference sessions

- Highlights of Recent U.S./Japan Collaborative NEES/Defense Projects, 1st U.S. National Conference on Earthquake Engineering, July 2014.
- Highlights of Ongoing Activities of NEES TIPS Project, 1st U.S National and 1st Canadian Conference on Earthquake Engineering, July 2010.
- Advances in Seismic Isolation Design Practice in the U.S. and Japan, 1st Analysis and Computation Specialty Conference, ASCE Structures Congress, April 2008.
- Performance based Evaluation of Semi Active and Passive Control Systems, 1st 18 Analysis and Computation Specialty Conference, ASCE Structures Congress, April 2008.
- Performance based Evaluation of Passive Control Systems, 1st 16 Analysis and Computation Specialty Conference, ASCE Structures Congress, April 2008.
- Simplified Analysis, Design and Assessment Tools for Base Isolated Buildings, ASCE Structures Congress, May 2007.

Peer reviewed journal and conference manuscripts about 10 manuscripts per year to various journals.

NSF Review Panels Served on review panels for various programs within NSF.

Provided user feedback for the NEES NSF site visit held at NSF, August, 2012.

Contributed to development of open source analysis program (OpenSees) widely used by the earthquake engineering research community. Recent contribution includes a 3-dimensional element for a triple pendulum bearing with a general friction model.

Professional Development

- International Mass Timber Conference, Portland, OR, March 2019.
- The Third International Workshop to Promote Seismic Protective Systems for Civil Structures, PREEMPTIVE SAVI Workshop, Santiago, Chile, Jan 7-8, 2017.
- RSNZ – JSPS Workshop on Evaluation of the Seismic Response of RC Buildings, Auckland, New Zealand, Sept. 10, 2016
- The Second International Workshop to Promote Seismic Protective Systems for Civil Structures, PREEMPTIVE SAVI Workshop, Christchurch and Taupo, New Zealand, August 29 – Sep 3, 2016.

