# Stanford



# Jack Baker

William Alden Campbell and Martha Campbell Professor, Associate Dean for Faculty Affairs and Professor of Civil and Environmental Engineering

# CONTACT INFORMATION

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# Bio

# BIO

Jack Baker is a Professor of Civil & Environmental Engineering and Associate Dean for Faculty Affairs in the Stanford Doerr School of Sustainability. He uses probabilistic and statistical tools to quantify and manage disaster risk and resilience. He has made contributions to risk analysis of spatially distributed systems, characterization of earthquake ground motions, and simulation of post-disaster recovery. He is an author of the textbook Seismic Hazard and Risk Analysis, Director of the Stanford Urban Resilience Initiative, Editor-in-Chief of Earthquake Spectra, and a Co-Founder of Haselton Baker Risk Group.

Prior to Stanford, Professor Baker was a visiting researcher at the Swiss Federal Institute of Technology (ETH Zurich). He has degrees in Structural Engineering (Stanford, M.S. 2002, Ph.D. 2005), Statistics (Stanford, M.S. 2004) and Mathematics/Physics (Whitman College, B.A. 2000). His awards include the William B. Joyner Lecture Award from the Seismological Society of America and Earthquake Engineering Research Institute, the Shah Family Innovation Prize from the Earthquake Engineering Research Institute, the CAREER Award from the National Science Foundation, the Early Achievement Research Award from the International Association for Structural Safety and Reliability, the Walter L. Huber Prize from the American Society of Civil Engineers, the Helmut Krawinkler Award from the Structural Engineers Association of Northern California, and the Eugene L. Grant Award for excellence in teaching from Stanford.

# ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Affiliate, Precourt Institute for Energy

# HONORS AND AWARDS

- William B. Joyner Lecture Award, Seismological Society of America and the Earthquake Engineering Research Institute (2023)
- PROSE Awards finalist, for Seismic Hazard and Risk Analysis textbook, Association of American Publishers (AAP) (2022)
- Thorpe Medal, European Council on Computing in Construction (2022)
- Helmut Krawinkler Award, Structural Engineers Association of Northern California (SEAONC) (2019)
- Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineering (ASCE) (2018)

- Excellence in Structural Engineering Research Award, Structural Engineers Association of California (SEAOC) (2015)
- Early Achievement Research Award, International Association for Structural Safety and Reliability (IASSAR) (2013)
- Eugene L. Grant Award, Stanford University (2013)
- Outstanding Paper Award, Earthquake Engineering Research Institute (2011)
- CAREER Award, National Science Foundation (2010)
- Shah Family Innovation Prize, Earthquake Engineering Research Institute (2010)

#### **PROFESSIONAL EDUCATION**

- Ph.D., Stanford , Civil & Environmental Engineering (2005)
- M.A., Stanford , Statistics (2004)
- M.S., Stanford , Civil & Environmental Engineering (2002)
- B.A., Whitman College , Mathematics/Physics (2000)

#### LINKS

- · Research Website: https://www.jackwbaker.com
- Google Scholar: https://scholar.google.com/citations?hl=en&user=im82jgIAAAAJ

# Teaching

## COURSES

#### 2024-25

- Probabilistic Models in Civil and Environmental Engineering: CEE 203 (Aut)
- Seismic Hazard and Risk Analysis: CEE 288 (Win)
- Structural Engineering and Mechanics Seminar: CEE 298 (Win)

#### 2023-24

- Probabilistic Models in Civil and Environmental Engineering: CEE 203 (Aut)
- Seismic Hazard and Risk Analysis: CEE 288 (Win)
- Structural Engineering and Mechanics Seminar: CEE 298 (Win)

#### 2022-23

- Disaster Resilience Seminar: CEE 209S (Aut)
- Probabilistic Models in Civil and Environmental Engineering: CEE 203 (Aut)
- Seismic Hazard and Risk Analysis: CEE 288 (Win)
- Structural Engineering and Geomechanics Seminar: CEE 298 (Win)

#### 2021-22

- Probabilistic Models in Civil Engineering: CEE 203 (Aut)
- Random Vibrations: CEE 289 (Win)
- Regional Seismic Risk Analysis and Risk Management: CEE 296 (Spr)
- Structural Engineering and Geomechanics Seminar: CEE 298 (Win)

## STANFORD ADVISEES

#### **Doctoral Dissertation Reader (AC)**

Juan Miguel Navarro Carranza, Mofan Zhang

**Postdoctoral Faculty Sponsor** 

Nikola Blagojevic, Simona Meiler

Doctoral Dissertation Advisor (AC)

Emily Mongold, Tinger Zhu

#### Master's Program Advisor

Victor Calderon Astuhuaman, Katherine Lacaze, Alex Li, Muhammad Nauman Masoom, Vishnu Murali, Bofan Yu, Yushun Zou

#### Doctoral (Program)

Gabriela Calana Somoza, Emily Mongold, Tinger Zhu

# **Publications**

#### PUBLICATIONS

- A predictive model for household displacement duration after disasters. Risk analysis : an official publication of the Society for Risk Analysis Paul, N., Galasso, C., Baker, J., Silva, V. 2025
- Tom Hanks-A Remembrance SEISMOLOGICAL RESEARCH LETTERS
   Minson, S. E., Baltay, A. S., Cochran, E. S., Nevitt, J. M., Hickman, S. H., Thatcher, W. R., Baker, J. W., Diggles, M. F. 2025; 96 (1): 7-8
- Post-disaster housing recovery estimation: Data and lessons learned from the 2017 Tubbs and 2018 Camp Fires INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION
   Lee, J., Costa, R., Baker, J. W.
   2024; 114
- Probabilistic Regional Liquefaction Hazard and Risk Analysis: A Case Study of Residential Buildings in Alameda, California NATURAL HAZARDS REVIEW

Mongold, E., Baker, J. W. 2024; 25 (4)

- Accounting for ground-motion uncertainty in empirical seismic fragility modeling *EARTHQUAKE SPECTRA* Bodenmann, L., Baker, J. W., Stojadinovic, B. 2024; 40 (4): 2456-2474
- Multi-regional economic recovery simulation using an Adaptive Regional Input-Output (ARIO) framework INTERNATIONAL JOURNAL OF
  DISASTER RISK REDUCTION

Zhu, T., Issa, O., Markhvida, M., Costa, R., Baker, J. W. 2024; 112

- Uncovering Drivers of Atmospheric River Flood Damage Using Interpretable Machine Learning NATURAL HAZARDS REVIEW Bowers, C., Serafin, K. A., Baker, J. W. 2024; 25 (3)
- Sharing data and code facilitates reproducible and impactful research EARTHQUAKE SPECTRA
   Baker, J. W., Crowley, H., Wald, D., Rathje, E., Au, S., Bradley, B. A., Burton, H., Cabas, A., Cattari, S., Cauzzi, C., Cavalieri, F., Contreras, S., Costa, et al
   2024; 40 (3): 2210-2218
- Modeling post-disaster recovery: Accounting for rental and multi-family housing EARTHQUAKE SPECTRA Mongold, E., Costa, R., Zsarnoczay, A., Baker, J. W. 2024; 40 (2): 1353-1375
- A model for partially dependent component damage fragilities in seismic risk analysis EARTHQUAKE SPECTRA Baker, J. W., Almeter, E., Cook, D., Liel, A. B., Haselton, C.

2024; 40 (1): 609-628

- Household Displacement and Return in Disasters: A Review NATURAL HAZARDS REVIEW Paul, N., Galasso, C., Baker, J. 2024; 25 (1)
- Elevated collapse risk based on decaying aftershock hazard and damaged building fragilities *EARTHQUAKE SPECTRA* Hulsey, A. M., Galvis, F. A., Baker, J. W., Deierlein, G. G. 2024; 40 (1): 674-704
- Temporal compounding increases economic impacts of atmospheric rivers in California. Science advances Bowers, C., Serafin, K. A., Baker, J. W. 2024: 10 (3): eadi7905
- Optimal Bridge Retrofitting Selection for Seismic Risk Management Using Genetic Algorithms and Neural Network-Based Surrogate Models JOURNAL OF INFRASTRUCTURE SYSTEMS
   Silva-Lopez, R., Baker, J. W.
   2023; 29 (4)
- Atmospheric River Sequences as Indicators of Hydrologic Hazard in Historical Reanalysis and GFDL SPEAR Future Climate Projections EARTHS FUTURE Bowers, C., Serafin, K. A., Tseng, K., Baker, J. W.

2023; 11 (12)

• Effect of near-fault directivity pulses on ground-motion intensity measure correlations from the NGA-West2 data set EARTHQUAKE SPECTRA

Tarbali, K., Bradley, B. A., Baker, J. W. 2023; 39 (4): 2263-2280

• A methodology to estimate postdisaster unmet housing needs using limited data: Application to the 2017 California wildfires. *Risk analysis : an official publication of the Society for Risk Analysis* Costa, R., Baker, J. W.

2023

• Evaluating the effectiveness of ground motion intensity measures through the lens of causal inference EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Burton, H. V., Baker, J. W. 2023

• Accounting for path and site effects in spatial ground-motion correlation models using Bayesian inference NATURAL HAZARDS AND EARTH SYSTEM SCIENCES

Bodenmann, L., Baker, J. W., Stojadinovic, B. 2023; 23 (7): 2387-2402

• Modeling future economic costs and interdependent industry recovery after earthquakes EARTHQUAKE SPECTRA Markhvida, M., Baker, J. W.

2023; 39 (2): 914-937

• Simulation-based methodology to identify damage indicators and safety thresholds for post-earthquake evaluation of structures EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Galvis, F. A., Hulsey, A. M., Baker, J. W., Deierlein, G. G. 2023

• A data-driven approach to rapidly estimate recovery potential to go beyond building damage after disasters COMMUNICATIONS EARTH & ENVIRONMENT

Loos, S., Lallemant, D., Khan, F., McCaughey, J. W., Banick, R., Budhathoki, N., Baker, J. W. 2023; 4 (1)

• Quantifying the fragility of coral reefs to hurricane impacts: a case study of the Florida Keys and Puerto Rico ENVIRONMENTAL RESEARCH LETTERS

Madden, I. A., Mariwala, A., Lindhart, M., Narayan, S., Arkema, K. K., Beck, M. W., Baker, J. W., Suckale, J.

2023; 18 (2)

- Machine-learning-based optimization framework to support recovery-based design Earthquake Engineering & Structural Dynamics Issa, O., Silva-Lopez, R., Baker, J. W., Burton, H. V. 2023
- Use of corridors to select bridges to retrofit in road networks in seismic regions SUSTAINABLE AND RESILIENT INFRASTRUCTURE Silva-Lopez, R., Baker, J. W. 2022; 7 (6): 901-917
- Simulating post-disaster temporary housing needs for displaced households and out-of-town contractors EARTHQUAKE SPECTRA Wang, C., Costa, R., Baker, J. W.
   2022; 38 (4): 2922-2940
- Integrating Place Attachment into Housing Recovery Simulations to Estimate Population Losses NATURAL HAZARDS REVIEW Costa, R., Wang, C., Baker, J. W. 2022; 23 (4)
- Efficacy of Damage Data Integration: A Comparative Analysis of Four Major Earthquakes NATURAL HAZARDS REVIEW Loos, S., Levitt, J., Tomozawa, K., Baker, J., Lallemant, D. 2022; 23 (4)
- Commuter welfare-based probabilistic seismic risk assessment of regional road networks RELIABILITY ENGINEERING & SYSTEM SAFETY Silva-Lopez, R., Bhattacharjee, G., Poulos, A., Baker, J. W.
   2022: 227
- High-resolution post-earthquake recovery simulation: Impact of safety cordons EARTHQUAKE SPECTRA Hulsey, A. M., Baker, J. W., Deierlein, G. G. 2022; 38 (3): 2061-2087
- A performance-based approach to quantify atmospheric river flood risk NATURAL HAZARDS AND EARTH SYSTEM SCIENCES Bowers, C., Serafin, K. A., Baker, J. 2022; 22 (4): 1371-1393
- Deep Learning-Based Retrofitting and Seismic Risk Assessment of Road Networks JOURNAL OF COMPUTING IN CIVIL ENGINEERING Silva-Lopez, R., Baker, J. W., Poulos, A.
   2022: 36 (2)
- Evaluation of Earthquake Response Spectra Directionality Using Stochastic Simulations BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Poulos, A., Miranda, E., Baker, J. W. 2022; 112 (1): 307-315

• Evaluation of Intensity Prediction Equations (IPEs) for Small-Magnitude Earthquakes BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Teng, G., Baker, J. W., Wald, D. J. 2022; 112 (1): 316-330

• Post shut-in hazard for hydraulic-fracturing-induced earthquakes: analysis using data from the Guy-Greenbrier earthquake sequence JOURNAL OF SEISMOLOGY

Teng, G., Baker, J. W. 2022

- Digital technologies can enhance climate resilience of critical infrastructure CLIMATE RISK MANAGEMENT
   Argyroudis, S. A., Aristotels Mitoulis, S., Chatzi, E. W., Baker, J. W., Brilakis, I., Gkoumas, K., Vousdoukas, M., Hynes, W., Carluccio, S., Keou, O., Frangopol, D. M., Linkov, I.
   2022; 35
- Preliminary National-Scale Seismic Risk Assessment of Natural Gas Pipelines in the United States Kwong, N., Jaiswal, K. S., Luco, N., Baker, J. W., Ludwig, K. A., Davis, C. A., Yu, K., Taciroglu, E.
   AMER SOC CIVIL ENGINEERS.2022: 99-110

- Using Global Variance-Based Sensitivity Analysis to Prioritize Bridge Retrofits for Low-Probability, High-Cost Earthquakes Bhattacharjee, G., Baker, J. W., Davis, C. A., Yu, K., Taciroglu, E. AMER SOC CIVIL ENGINEERS.2022: 797-808
- Incorporating Infrastructure Damage and Household Disaster Preparedness to Assess Emergency Water Needs Costa, R., Wang, C., Baker, J. W., Davis, C. A., Yu, K., Taciroglu, E.
   AMER SOC CIVIL ENGINEERS.2022: 434-442
- Evaluation of Conditional Mean Spectra Code Criteria for Ground Motion Selection *Journal of Structural Engineering* Bassman, T. J., Zhong, K., Baker, J. W. 2022
- Site-specific adjustment framework for incremental dynamic analysis (SAF-IDA) Earthquake Spectra Zhong, K., Chandramohan, R., Baker, J. W., Deierlein, G. G. 2022
- Smote-Lasso Model of Business Recovery over Time: Case Study of the 2011 Tohoku Earthquake NATURAL HAZARDS REVIEW Costa, R., Baker, J. 2021; 22 (4)
- Community detection in spatial correlation graphs: Application to non-stationary ground motion modeling COMPUTERS & GEOSCIENCES Chen, Y., Baker, J. W. 2021; 154
- Nonstationary spatial correlation in New Zealand strong ground-motion data EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS Chen, Y., Bradley, B. A., Baker, J. W.
   2021
- Using global variance-based sensitivity analysis to prioritise bridge retrofits in a regional road network subject to seismic hazard STRUCTURE AND INFRASTRUCTURE ENGINEERING
   Bhattacharjee, G., Baker, J. W.
   2021
- A subset of CyberShake ground-motion time series for response-history analysis EARTHQUAKE SPECTRA Baker, J. W., Rezaeian, S., Goulet, C. A., Luco, N., Teng, G. 2021; 37 (2): 1162-1176
- G-DIF: A geospatial data integration framework to rapidly estimate post-earthquake damage *EARTHQUAKE SPECTRA* Loos, S., Lallemant, D., Baker, J., McCaughey, J., Yun, S., Budhathoki, N., Khan, F., Singh, R. 2020; 36 (4): 1695–1718
- Variance-based sensitivity analyses and uncertainty quantification for FEMA P-58 consequence predictions EARTHQUAKE ENGINEERING
   & STRUCTURAL DYNAMICS
  - Cremen, G., Baker, J. W. 2020
- Risk-Informed Recommendations for Managing Hydraulic Fracturing-Induced Seismicity via Traffic Light Protocols BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Schultz, R., Beroza, G., Ellsworth, W., Baker, J. 2020; 110 (5): 2411–22

• Short-Term Probabilistic Hazard Assessment in Regions of Induced Seismicity BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Teng, G., Baker, J. W. 2020; 110 (5): 2441–53

• Statistical learning techniques for the estimation of lifeline network performance and retrofit selection RELIABILITY ENGINEERING & SYSTEM SAFETY

Wu, J., Baker, J. W. 2020; 200 • Ground motion spatial correlation fitting methods and estimation uncertainty EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS Baker, J. W., Chen, Y.

2020

- Quantification of disaster impacts through household well-being losses NATURE SUSTAINABILITY Markhvida, M., Walsh, B., Hallegatte, S., Baker, J.
   2020
- Modeling post-earthquake business recovery time: An analytical framework INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION Cremen, G., Seville, E., Baker, J. W.
   2020: 42
- A spatial cross-correlation model for ground motion spectral accelerations at multiple periods (vol 42, pg 397, 2013) EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS Loth, C., Baker, J. W.

2019

• Spatial Correlations in CyberShake Physics-Based Ground-Motion Simulations BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Chen, Y., Baker, J. W. 2019; 109 (6): 2447–58

• Seismicity Declustering and Hazard Analysis of the Oklahoma-Kansas Region BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA Teng, G., Baker, J. W.

2019; 109 (6): 2356–66

• Using model error in response history analysis to evaluate component calibration methods EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Zsarnoczay, A., Baker, J. W. 2019

- Current Challenges and Future Trends in Analytical Fragility and Vulnerability Modeling EARTHQUAKE SPECTRA Silva, V., Akkar, S., Baker, J., Bazzurro, P., Castro, J., Crowley, H., Dolsek, M., Galasso, C., Lagomarsino, S., Monteiro, R., Perrone, D., Pitilakis, K., Vamvatsikos, et al 2019; 35 (4): 1927–52
- Evaluation of SCEC CyberShake Ground Motions for Engineering Practice EARTHQUAKE SPECTRA

Teng, G., Baker, J. 2019; 35 (3): 1311–28

• A framework for time-varying induced seismicity risk assessment, with application in Oklahoma BULLETIN OF EARTHQUAKE ENGINEERING

Gupta, A., Baker, J. W. 2019; 17 (8): 4475–93

- Ground Motion Selection in the Near-Fault Region Considering Directivity-Induced Pulse Effects EARTHQUAKE SPECTRA Tarbali, K., Bradley, B. A., Baker, J. W. 2019; 35 (2): 759–86
- Improving FEMA P-58 non-structural component fragility functions and loss predictions (vol 17, pg 1941, 2019) BULLETIN OF EARTHQUAKE ENGINEERING

Cremen, G., Baker, J. W. 2019; 17 (4): 1961–62

- Improving FEMA P-58 non-structural component fragility functions and loss predictions BULLETIN OF EARTHQUAKE ENGINEERING Cremen, G., Baker, J. W.
   2019; 17 (4): 1941–60
- A Methodology for Evaluating Component-Level Loss Predictions of the FEMA P-58 Seismic Performance Assessment Procedure EARTHQUAKE SPECTRA Cremen, G., Baker, J. W.

2019; 35 (1): 193–210

• An optimization-based decision support framework for coupled pre- and post-earthquake infrastructure risk management STRUCTURAL SAFETY

Gomez, C., Baker, J. W. 2019; 77: 1–9

• Quantifying the benefits of building instruments to FEMA P-58 rapid post-earthquake damage and loss predictions ENGINEERING STRUCTURES

Cremen, G., Baker, J. W. 2018; 176: 243–53

Unification of Seismic Performance Estimation and Real Estate Investment Analysis to Model Post-Earthquake Building Repair
 Decisions EARTHQUAKE SPECTRA

Markhvida, M., Baker, J. W. 2018; 34 (4): 1787–1808

• Consideration and Propagation of Ground Motion Selection Epistemic Uncertainties to Seismic Performance Metrics EARTHQUAKE SPECTRA

Tarbali, K., Bradley, B. A., Baker, J. W. 2018; 34 (2): 587–610

• Modeling spatially correlated spectral accelerations at multiple periods using principal component analysis and geostatistics EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Markhvida, M., Ceferino, L., Baker, J. W. 2018; 47 (5): 1107–23

• Spatial and Spectral Interpolation of Ground-Motion Intensity Measure Observations BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Worden, B., Thompson, E. M., Baker, J. W., Bradley, B. A., Luco, N., Wald, D. J. 2018; 108 (2): 866–75

• An Improved Algorithm for Selecting Ground Motions to Match a Conditional Spectrum JOURNAL OF EARTHQUAKE ENGINEERING Baker, J. W., Lee, C.

2018; 22 (4): 708–23

- Incorporating Induced Seismicity Source Models and Ground Motion Predictions to Forecast Dynamic Regional Risk Baker, J. W., Gupta, A., Brandenberg, S. J., Manzari, M. T.
   AMER SOC CIVIL ENGINEERS.2018: 20–28
- Assessing Ground-Motion Amplitudes and Attenuation for Small-to-Moderate Induced and Tectonic Earthquakes in the Central and Eastern United States SEISMOLOGICAL RESEARCH LETTERS Gupta, A., Baker, J. W., Ellsworth, W. L.

2017; 88 (5): 1379–89

• EARTHQUAKE ENGINEERING PRACTICE Guidance on the Utilization of Earthquake-Induced Ground Motion Simulations in Engineering Practice EARTHQUAKE SPECTRA

Bradley, B. A., Pettinga, D., Baker, J. W., Fraser, J. 2017; 33 (3): 809–35

• Response History Analysis for the Design of New Buildings in the NEHRP Provisions and ASCE/SEI 7 Standard: Part II - Structural Analysis Procedures and Acceptance Criteria EARTHQUAKE SPECTRA

Haselton, C. B., Fry, A., Hamburger, R. O., Baker, J. W., Zimmerman, R. B., Luco, N., Elwood, K. J., Hooper, J. D., Charney, F. A., Pekelnicky, R. G., Whittaker, A. S.

2017; 33 (2): 397–417

• Response History Analysis for the Design of New Buildings in the NEHRP Provisions and ASCE/SEI 7 Standard: Part III - Example Applications Illustrating the Recommended Methodology EARTHQUAKE SPECTRA

Zimmerman, R. B., Baker, J. W., Hooper, J. D., Bono, S., Haselton, C. B., Engel, A., Hamburger, R. O., Celikbas, A., Jalalian, A. 2017; 33 (2): 419–47

Intensity Measure Correlations Observed in the NGA-West2 Database, and Dependence of Correlations on Rupture and Site
 Parameters EARTHQUAKE SPECTRA

Baker, J. W., Bradley, B. A. 2017; 33 (1): 145-156

• Estimating spatially varying event rates with a change point using Bayesian statistics: Application to induced seismicity STRUCTURAL SAFETY

Gupta, A., Baker, J. W. 2017; 65: 1-11

• Spectral Variability and Its Relationship to Structural Response Estimated from Scaled and Spectrum-Matched Ground Motions EARTHQUAKE SPECTRA

Seifried, A. E., Baker, J. W. 2016; 32 (4): 2191-2205

• Quantifying the impacts of modeling uncertainties on the seismic drift demands and collapse risk of buildings with implications on seismic design checks *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS* Gokkaya, B. U., Baker, J. W., Deierlein, G. G.

2016; 45 (10): 1661-1683

• Impact of hazard-consistent ground motion duration in structural collapse risk assessment EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Chandramohan, R., Baker, J. W., Deierlein, G. G. 2016; 45 (8): 1357-1379

• Bayesian Treatment of Induced Seismicity in Probabilistic Seismic-Hazard Analysis BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Baker, J. W., Gupta, A. 2016; 106 (3): 860-870

Quantifying the Influence of Ground Motion Duration on Structural Collapse Capacity Using Spectrally Equivalent Records EARTHQUAKE SPECTRA

Chandramohan, R., Baker, J. W., Deierlein, G. G. 2016; 32 (2): 927-950

• Coupling mode-destination accessibility with seismic risk assessment to identify at-risk communities RELIABILITY ENGINEERING & SYSTEM SAFETY

Miller, M., Baker, J. W. 2016; 147: 60-71

• A predictive model for fling-step in near-fault ground motions based on recordings and simulations SOIL DYNAMICS AND EARTHQUAKE ENGINEERING

Burks, L. S., Baker, J. W. 2016; 80: 119-126

• Rational Design Spectra for Structural Reliability Assessment Using the Response Spectrum Method EARTHQUAKE SPECTRA Loth, C., Baker, J. W.

2015; 31 (4): 2007-2026

• Ground motion selection for simulation-based seismic hazard and structural reliability assessment EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Bradley, B. A., Burks, L. S., Baker, J. W. 2015; 44 (13): 2321-2340

- Evaluation of Hybrid Broadband Ground Motion Simulations for Response History Analysis and Design EARTHQUAKE SPECTRA Burks, L. S., Zimmerman, R. B., Baker, J. W. 2015; 31 (3): 1691-1710
- Characterizing and Responding to Seismic Risk Associated with Earthquakes Potentially Triggered by Fluid Disposal and Hydraulic Fracturing SEISMOLOGICAL RESEARCH LETTERS

Walters, R. J., Zoback, M. D., Baker, J. W., Beroza, G. C.

2015; 86 (4): 1110-1118

 Ground-motion intensity and damage map selection for probabilistic infrastructure network risk assessment using optimization EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS Miller, M., Baker, J.

2015; 44 (7): 1139-1156

• Ground motion directionality in the 2010-2011 Canterbury earthquakes EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS Bradley, B. A., Baker, J. W.

2015; 44 (3): 371-384

• Efficient Analytical Fragility Function Fitting Using Dynamic Structural Analysis EARTHQUAKE SPECTRA

Baker, J. W. 2015; 31 (1): 579-599

• An Efficient Algorithm to Identify Strong-Velocity Pulses in Multicomponent Ground Motions BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Shahi, S. K., Baker, J. W. 2014; 104 (5): 2456-2466

NGA-West2 Models for Ground Motion Directionality EARTHQUAKE SPECTRA

Shahi, S. K., Baker, J. W. 2014; 30 (3): 1285-1300

 Validation of Ground-Motion Simulations through Simple Proxies for the Response of Engineered Systems BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA Burks, L. S., Baker, J. W.

2014; 104 (4): 1930-1946

NGA-West2 Research Project EARTHQUAKE SPECTRA
 Bozorgnia, Y., Abrahamson, N. A., Al Atik, L., Ancheta, T. D., Atkinson, G. M., Baker, J. W., Baltay, A., Boore, D. M., Campbell, K. W., Chiou, B. S., Darragh, R., Day, S., Donahue, et al

2014; 30 (3): 973-987

- Comparison of NGA-West2 Directivity Models EARTHQUAKE SPECTRA Spudich, P., Rowshandel, B., Shahi, S. K., Baker, J. W., Chiou, B. S. 2014; 30 (3): 1199-1221
- Rapid Earthquake Characterization Using MEMS Accelerometers and Volunteer Hosts Following the M 7.2 Darfield, New Zealand, Earthquake BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA

Lawrence, J. F., Cochran, E. S., Chung, A., Kaiser, A., Christensen, C. M., Allen, R., Baker, J. W., Fry, B., Heaton, T., Kilb, D., Kohler, M. D., Taufer, M.

2014; 104 (1): 184-192

• Rapid Earthquake Characterization Using MEMS Accelerometers and Volunteer Hosts Following the M 7.2 Darfield, New Zealand, Earthquake

Lawrence, J., F., Cochran, E., S., Chung, A., Kaiser, A., Christensen, C., M., Allen, R., Baker, J. W. 2014; 1 (104): 1

- A modular framework for performance-based durability engineering: From exposure to impacts *STRUCTURAL SAFETY* Flint, M. M., Baker, J. W., Billington, S. L. 2014; 50: 78-93
- Stochastic Model for Earthquake Ground Motion Using Wavelet Packets BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA Yamamoto, Y., Baker, J. W.
   2013; 103 (6): 3044-3056
- Conditional spectrum-based ground motion selection. Part II: Intensity-based assessments and evaluation of alternative target spectra EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

Lin, T., Haselton, C. B., Baker, J. W. 2013; 42 (12): 1867-1884

• Conditional spectrum-based ground motion selection. Part I: Hazard consistency for risk-based assessments EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS

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