Stanford

Jack Baker

William Alden Campbell and Martha Campbell Professor and Professor of Civil and Environmental Engineering

CONTACT INFORMATION

- **Administrator**

  Kim Vonner - Administrative Associate

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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)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Bryam Astudillo Carpio, Nathan Girmay, Mia Lochhead, Juan Valois Martinez, Aniket Verma, Mofan Zhang

Postdoctoral Faculty Sponsor

Nikola Blagojevic, Simona Meiler

Doctoral Dissertation Advisor (AC)

Tinger Zhu

Master's Program Advisor

Jaelen Sobers

Doctoral (Program)

Gabriela Calana Somoza, Jordaina Hewitt, Bofan Yu, Tinger Zhu

Publications

PUBLICATIONS

- **Observed Ground Motions That Exceeded Design Response Spectra in the Western United States** *EARTHQUAKE SPECTRA*
  Calderon, V. H., Baker, J. W.
  2026; 42 (1)
- **Refined Adaptive Regional Input-Output Model: Application to the 2016 Kumamoto Earthquake** *NATURAL HAZARDS REVIEW*
  Issa, O., Zhu, T., Markhvida, M., Costa, R., Baker, J. W.
  2025; 26 (4)
- **Macroeconomic models for predicting indirect impacts of disasters: A review** *RESILIENT CITIES AND STRUCTURES*
  Zhu, T., Avraam, C., Baker, J. W.
  2025; 4 (3): 1-14
- **Quantifying climate change risk through natural hazard losses to inform adaptation action** *CLIMATIC CHANGE*
  Mongold, E., Baker, J. W.
  2025; 178 (4)
- **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
- **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)
- **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
- **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
- **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
- **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
- **Temporal compounding increases economic impacts of atmospheric rivers in California.** *Science advances*
  Bowers, C., Serafin, K. A., Baker, J. W.
  2024; 10 (3): eadi7905
- **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)
- **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)
- **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. V., Baker, J. W. 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. W., Banick, R., Budhathoki, N., Baker, J. W. 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
- **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
- **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)
- **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

- **Site-specific adjustment framework for incremental dynamic analysis (SAF-IDA)** *Earthquake Spectra*
  Zhong, K., Chandramohan, R., Baker, J. W., Deierlein, G. G.
  2022
- **Incorporating Infrastructure Damage and Household Disaster Preparedness to Assess Emergency Water Needs**
  Costa, R., Wang, C., Baker, J. W.
  edited by Davis, C. A., Yu, K., Taciroglu, E.
  AMER SOC CIVIL ENGINEERS.2022: 434-442
- **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.
  edited by 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.
  edited by Davis, C. A., Yu, K., Taciroglu, E.
  AMER SOC CIVIL ENGINEERS.2022: 797-808
- **Evaluation of Conditional Mean Spectra Code Criteria for Ground Motion Selection** *Journal of Structural Engineering*
  Bassman, T. J., Zhong, K., 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
- **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.
  edited by 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.
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