Stanford



Jack Baker

Gary Retelny and Family Chair of the Department of Civil and Environmental Engineering, William Alden Campbell and Martha Campbell Professor and Professor of Civil and Environmental Engineering

CONTACT INFORMATION

- **Administrator**

  Kim Vonner - Administrative Associate

  Email kvonner@stanford.edu

  Tel (650) 723-4121

Bio

BIO

Jack Baker 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

2026-27

- Probabilistic Models in Civil and Environmental Engineering: CEE 203 (Aut)
- Seismic Hazard and Risk Analysis: CEE 288 (Win)
- Seminar on Teaching for TAs: CEE 379B (Aut)

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)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

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

Postdoctoral Faculty Sponsor

Nikola Blagojevic, Minho Kim, Simona Meiler

Master's Program Advisor

Wilfried Ngouela Goukbon, Jaelen Sobers

Doctoral (Program)

Gabriela Calana Somoza, Jordaina Hewitt, Varun Sahay, Bofan Yu

Publications

PUBLICATIONS

- **Simulating dynamic transport-economic interdependencies for post-earthquake regional economic recovery** *RELIABILITY ENGINEERING & SYSTEM SAFETY*
  Zhu, T., Yu, B., Silva-Lopez, R., Baker, J. W.
  2027; 279
- **Cross-Period Ground Motion Spatial Correlation With Path and Site Effects: Bayesian Inference and Risk Implications** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Yu, B., Baker, J. W.
  2026
- **Socio-technical regional disaster recovery modeling using generative LLM-based agents** *INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION*
  Blagojevic, N., Baker, J.
  2026; 142
- **Hazard-Consistent Aftershock Ground Motion Intensity Map and Arrival Time Sampling for Regional Seismic Risk Analysis** *EARTHQUAKE SPECTRA*
  Zhao, J., Sharma, N., Baker, J. W.
  2026; 42 (2)
- **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
- **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. 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
- **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.
  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
- **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
- **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.
  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.
  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*
  Lin, T., Haselton, C. B., Baker, J. W.
  2013; 42 (12): 1847-1865
- **Use of Fragile Geologic Structures as Indicators of Unexceeded Ground Motions and Direct Constraints on Probabilistic Seismic Hazard Analysis** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Baker, J. W., Abrahamson, N. A., Whitney, J. W., Board, M. P., Hanks, T. C.
  2013; 103 (3): 1898-1911
- **Conditional Spectrum Computation Incorporating Multiple Causal Earthquakes and Ground-Motion Prediction Models** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Lin, T., Harmsen, S. C., Baker, J. W., Luco, N.
  2013; 103 (2A): 1103-1116
- **A spatial cross-correlation model of spectral accelerations at multiple periods** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Loth, C., Baker, J. W.
  2013; 42 (3): 397-417
- **Stochastic model for earthquake ground motion using wavelet packets.** *Bulletin of the Seismological Society of America*
  Yamamoto, Y., Baker, J., W.
  2013; 6 (103): 1
- **A Framework for Selecting A Suite Of Ground-Motion Intensity Maps Consistent With Both Ground-Motion Intensity And Network Performance Hazards For Infrastructure Networks.**
  Miller, M., Baker, J., W.
  2013
- **A spatial cross-correlation model of ground motion spectral accelerations at multiple periods.** *Earthquake Engineering & Structural Dynamics*

Loth, C., Baker, J., W.
2013; 3 (42): 397–417

- **Trade-offs in ground motion selection techniques for collapse assessment of structures.**
Baker, J., W.
2013

- **Introducing Adaptive Incremental Dynamic Analysis: A new tool for linking ground motion selection and structural response assessment.**
Lin, T., Baker, J., W.
2013

- **Incorporating model uncertainty in collapse reliability assessment of buildings.**
Ugurhan, B., Baker, J., W., Deierlein, G., G.
2013

- **Extreme Ground Motions And Yucca Mountain** *US Geological Survey, Reston, Virginia*
Hanks, T., C., Abrahamson, N., A., Baker, J., W., Boore, D., M., Board, M., Brune, J., N.
2013: 1

- **Risk communication for critical civil infrastructure systems.**
Baker, J., W., Coray, J., DeStefano, P., Duenas-Osorio, L., King, S., Manuel, L.
2013

- **Directionality models for the NGA West 2 project.**
Shahi, S., K., Baker, J., W.
2013

- **Reliability-based calibration of design seismic response spectra and structural acceptance criteria.**
Loth, C., Baker, J., W.
2013

- **Final Report of the NGA-West2 Directivity Working Group.**
Spudich, P., Bayless, J., Baker, J., W., Chiou, B., S. J., Rowshandel, B., Shahi, S., K.
2013

- **Influence of ground motion spectral shape and duration on seismic collapse risk.**
Chandramohan, R., Lin, T., Baker, J., W., Deierlein, G., G.
2013

- **Influence of Ground Motion Duration on the Collapse Response of Bridge Structures.**
Chandramohan, R., Baker, J., W., Deierlein, G., G.
2013

- **Occurrence of negative epsilon in seismic hazard analysis deaggregation, and its impact on target spectra computation** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
Burks, L. S., Baker, J. W.
2012; 41 (8): 1241-1256

- **Characterization of random fields and their impact on the mechanics of geosystems at multiple scales** *INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS*
Chen, Q., Seifried, A., Andrade, J. E., Baker, J. W.
2012; 36 (2): 140-165

- **Preliminary NGA-West 2 models for ground-motion directionality.**
Shahi, S., K., Baker, J., W.
2012

- **GEM-PEER Global GMPEs Project Guidance for Including Near-Fault Effects in Ground Motion Prediction Models.**
Baker, J., W., Bozorgnia, Y., Di Alessandro, C., Chiou, B., S. J., Erdik, M., Somerville, P., G.
2012

- **Directivity models produced for the Next Generation Attenuation West 2 (NGA-West 2) project.**
  Spudich, P., Watson-Lamprey, J., Somerville, P., G., Bayless, J., Shahi, S., K., Baker, J., W.
  2012
- **A probabilistic framework for performance-based durability engineering.** *Hygrothermal Behaviour, Building Pathology and Durability, Building Pathology and Rehabilitation, Springer-Verlag*
  Flint, M., Baker, J., W., Billington, S., L.
  2012: 1
- **Seismic Considerations and Evaluation Approach for 'Isolated' Rooftop PV Arrays.**
  Walters, M., Berkowitz, R., Lau, D., Lee, W., Baker, J., W.
  2012
- **Preliminary Assessment of Ground Motion Duration Effects on Structural Collapse.**
  Foschaar, J., C., Baker, J., W., Deierlein, G., G.
  2012
- **Defining a consistent strategy to model ground motion parameters for the GEM-PEER Global GMPEs Project.**
  Akkar, S., D., Douglas, J., Di Alessandro, C., Campbell, K., W., Somerville, P., G., Cotton, F., Baker, J. W.
  2012
- **Selecting and Scaling Earthquake Ground Motions for Performing Response-History Analyses.**
  Haselton, C., B., Whittaker, A., S., Hortacsu, A., Baker, J., W., Bray, J., D., Grant, D., N.
  2012
- **Correlation of response spectral values in Japanese ground motions** *EARTHQUAKES AND STRUCTURES*
  Jayaram, N., Baker, J. W., Okano, H., Ishida, H., McCann, M. W., Mihara, Y.
  2011; 2 (4): 357-376
- **A Computationally Efficient Ground-Motion Selection Algorithm for Matching a Target Response Spectrum Mean and Variance** *EARTHQUAKE SPECTRA*
  Jayaram, N., Lin, T., Baker, J. W.
  2011; 27 (3): 797-815
- **Representation of Bidirectional Ground Motions for Design Spectra in Building Codes** *EARTHQUAKE SPECTRA*
  Stewart, J. P., Abrahamson, N. A., Atkinson, G. M., Baker, J. W., Boore, D. M., Bozorgnia, Y., Campbell, K. W., Comartin, C. D., Idriss, I. M., Lew, M., Mehrain, M., Moehle, J. P., Naeim, et al
  2011; 27 (3): 927-937
- **An Empirically Calibrated Framework for Including the Effects of Near-Fault Directivity in Probabilistic Seismic Hazard Analysis** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Shahi, S. K., Baker, J. W.
  2011; 101 (2): 742-755
- **Conditional Mean Spectrum: Tool for Ground-Motion Selection** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Baker, J. W.
  2011; 137 (3): 322-331
- **Accounting for Ground-Motion Spectral Shape Characteristics in Structural Collapse Assessment through an Adjustment for Epsilon** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Haselton, C. B., Baker, J. W., Liel, A. B., Deierlein, G. G.
  2011; 137 (3): 332-344
- **Effects of earthquake source geometry and site conditions on spatial correlation of earthquake ground motion hazard.**
  Baker, J., W., Miller, M.
  2011
- **Probabilistic Seismic Hazard Deaggregation of Ground Motion Prediction Models.**
  Lin, T., Baker, J., W.
  2011

- **New Ground Motion Selection Procedures and Selected Motions for the PEER Transportation Research Program.** *PEER Technical Report 2011/03.*
  Baker, J., W., Lin, T., Shahi, S., K., Jayaram, N.
  2011: 1
- **Uncertainty treatment in earthquake modeling using Bayesian probabilistic networks.** *GeoRisk*
  Bayraktarli, Y., Y., Baker, J., W., Faber, M., H.
  2011; 1 (5): 1
- **Selecting and Scaling Earthquake Ground Motions for Performing Response-History Analyses. NIST GCR 11-917-15.** *Prepared by the NEHRP Consultants Joint Venture for the National Institute of Standards and Technology*
  NIST, N.
  2011: 1
- **A FORM-based analysis of lifeline networks using a multivariate seismic intensity model.**
  Miller, M., Baker, J., W., Lim, H., W., Song, J., Jayaram, N.
  2011
- **Characterization of random fields at multiple scales: an efficient conditional simulation procedure and applications in geomechanics.**
  Baker, J., W., Seifried, A., Andrade, J., E., Chen, Q.
  2011
- **Spatial cross-correlation of spectral accelerations at multiple periods: model development and risk assessments considering secondary earthquake effects.** *Project report, USGS award G10AP00046.*
  Loth, C., Baker, J., W.
  2011: 1
- **Capacity design in seismic resistant steel buildings: a reliability-based methodology to establish capacity-design factors.** *EUROSTEEL*
  Victorsson, V., Deierlein, G., G., Baker, J., W.
  2011: 1
- **Seismic risk assessment of spatially-distributed systems using ground-motion models fitted considering spatial correlation.**
  Jayaram, N., Baker, J., W.
  2011
- **Regression models for predicting the probability of near-fault earthquake ground motion pulses, and their period.**
  Shahi, S., K., Baker, J., W.
  2011
- **Probabilistic Seismic Hazard Deaggregation of Ground Motion Prediction Models.**
  Lin, T., Baker, J., W.
  2011

- **New Ground Motion Selection Procedures and Selected Motions for the PEER Transportation Research Program.** *PEER Technical Report 2011/03.*
  Baker, J., W., Lin, T., Shahi, S., K., Jayaram, N.
  2011: 1
- **Uncertainty treatment in earthquake modeling using Bayesian probabilistic networks.** *GeoRisk*
  Bayraktarli, Y., Y., Baker, J., W., Faber, M., H.
  2011; 1 (5): 1
- **Selecting and Scaling Earthquake Ground Motions for Performing Response-History Analyses. NIST GCR 11-917-15.** *Prepared by the NEHRP Consultants Joint Venture for the National Institute of Standards and Technology*
  NIST, N.
  2011: 1
- **A FORM-based analysis of lifeline networks using a multivariate seismic intensity model.**
  Miller, M., Baker, J., W., Lim, H., W., Song, J., Jayaram, N.
  2011

- **Considering Spatial Correlation in Mixed-Effects Regression and the Impact on Ground-Motion Models** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Jayaram, N., Baker, J. W.
  2010; 100 (6): 3295-3303
- **Efficient sampling and data reduction techniques for probabilistic seismic lifeline risk assessment** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Jayaram, N., Baker, J. W.
  2010; 39 (10): 1109-1131
- **Reliability-based design and optimization of adaptive marine structures** *COMPOSITE STRUCTURES*
  Young, Y. L., Baker, J. W., Motley, M. R.
  2010; 92 (2): 244-253
- **Stochastic model for earthquake ground motions using wavelet packets.**
  Yamamoto, Y., Baker, J., W.
  2010
- **Ground-Motion Selection for PEER Transportation Research Program.**
  Jayaram, N., Baker, J., W.
  2010
- **Signal Processing and Probabilistic Seismic Hazard Analysis Tools for Characterizing the Impact of Near-Fault Directivity.**
  Shahi, S., K., Baker, J., W.
  2010
- **Characterizing spatial cross-correlation between ground-motion spectral accelerations at multiple periods.**
  Jayaram, N., Baker, J., W.
  2010
- **Advancement of hazard-consistent ground motion selection: refinements to conditional mean spectrum calculations.** *PEER Annual Meeting*
  Lin, T., Baker, J., W.
  2010: 1
- **Correlation model for spatially distributed ground-motion intensities** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Jayaram, N., Baker, J. W.
  2009; 38 (15): 1687-1708
- **A Probabilistic Method for the Magnitude Estimation of a Historical Damaging Earthquake Using Structural Fragility Functions** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Ryu, H., Kim, J. K., Baker, J. W.
  2009; 99 (2A): 520-537
- **Incorporating modeling uncertainties in the assessment of seismic collapse risk of buildings** *STRUCTURAL SAFETY*
  Liel, A. B., Haselton, C. B., Deierlein, G. G., Baker, J. W.
  2009; 31 (2): 197-211
- **Prediction of Inelastic Structural Response Using an Average of Spectral Accelerations.**
  Bianchini, M., Diotallevi, P., Baker, J., W.
  2009
- **Efficient sampling techniques for seismic risk assessment of lifelines.**
  Jayaram, N., Baker, J., W.
  2009
- **Reliability-based design and optimization of self-twisting composite marine rotors.**
  Motley, M., R., Young, Y., L., Baker, J., W.
  2009

- **Review of Recent Ground Motion Studies for Performance-based Engineering.**
  Baker, J., W.
  2009
- **Treatment of Uncertainties In Life Cycle Assessment.**
  Baker, J., W., Lepech, M., D.
  2009
- **Deaggregation of lifeline risk: Insights for choosing deterministic scenario earthquakes.**
  Jayaram, N., Baker, J., W.
  2009
- **Evaluation of Ground Motion Selection and Modification Methods: Predicting Median Interstory Drift Response of Buildings.** *PEER Technical Report 2009/01, Berkeley, California*
  Haselton, C., B., Baker, J., W., Bozorgnia, Y., Goulet, C., A., Kalkan, E., Luco, N.
  2009: 1
- **Statistical tests of the joint distribution of spectral acceleration values** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Jayaram, N., Baker, J. W.
  2008; 98 (5): 2231-2243
- **Random porosity fields and their influence on the stability of granular media** *INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS*
  Andrade, J. E., Baker, J. W., Ellison, K. C.
  2008; 32 (10): 1147-1172
- **Vector-valued intensity measures for pulse-like near-fault ground motions** *ENGINEERING STRUCTURES*
  Baker, J. W., Cornell, C. A.
  2008; 30 (4): 1048-1057
- **Correlation of spectral acceleration values from NGA ground motion models** *EARTHQUAKE SPECTRA*
  Baker, J. W., Jayaram, N.
  2008; 24 (1): 299-317
- **On the assessment of robustness** *STRUCTURAL SAFETY*
  Baker, J. W., Schubert, M., Faber, M. H.
  2008; 30 (3): 253-267
- **Characterization of random fields and their impact on the mechanics of geosystems at multiple scales**
  Seifried, A., Baker, J., W.
  2008
- **The importance of considering spectral shape when evaluating building seismic performance under extreme ground motions** *in SEAOC Convention 2008*
  Haselton, C., Baker, J., W., Goulet, C., Watson-Lamprey, J., Zareian, F.
  2008: 1
- **Ground Motion Target Spectra for Structures Sensitive to Multiple Periods of Excitation: Conditional Mean Spectrum Computation Using Multiple Ground Motion Prediction Models.**
  Baker, J., W., Lin, T.
  2008
- **The significance of near-fault effects on liquefaction**
  Green, R., A., Lee, J., White, T., M., Baker, J., W.
  2008
- **Converting HAZUS capacity curves to seismic hazard-compatible building fragility functions: Effect of hysteretic models**
  Ryu, H., Luco, N., Baker, J., W., Karaca, E.
  2008

- **Towards effective ground motion selection: Implementation of Conditional Mean Spectrum (CMS)**
  Lin, T., Baker, J., W.
  2008
- **Seismic risk assessment of lifelines**
  Jayaram, N., Baker, J., W.
  2008
- **Assessment of Ground Motion Selection and Modification (GMSM) methods for non-linear dynamic analyses of structures**
  Goulet, C., A, Watson-Lamprey, J., Baker, J., W., Luco, N., Yang, T., Y.
  2008
- **Risk-based assessment of robustness: What can it do and what can't it do?** *in Robustness of Structures, COST Action TU0601 1st Workshop*
  Baker, J., W.
  2008: 1
- **Introducing correlation among fragility functions for multiple components**
  Baker, J., W.
  2008
- **Effects of spatial correlation of ground motion parameters for multi-site seismic risk assessment: Collaborative research with Stanford University and AIR.**
  Baker, J., W., Jayaram, N.
  2008
- **Identification of near-fault velocity pulses and prediction of resulting response spectra**
  Baker, J., W.
  2008
- **An Introduction to Probabilistic Seismic Hazard Analysis (PSHA)** *White Paper, Version 1.3*
  Baker, J., W.
  2008: 1
- **Liquefaction risk assessment using geostatistics to account for soil spatial variability** *JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING*
  Baker, J. W., Faber, M. H.
  2008; 134 (1): 14-23
- **Vector-valued intensity measures incorporating spectral shape for prediction of structural response** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Baker, J. W., Cornell, C. A.
  2008; 12 (4): 534-554
- **Uncertainty propagation in probabilistic seismic loss estimation** *STRUCTURAL SAFETY*
  Baker, J. W., Cornell, C. A.
  2008; 30 (3): 236-252
- **Explicit directivity-pulse inclusion in probabilistic seismic hazard analysis** *EARTHQUAKE SPECTRA*
  Tothong, P., Cornell, C. A., Baker, J. W.
  2007; 23 (4): 867-891
- **Probabilistic structural response assessment using vector-valued intensity measures** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Baker, J. W.
  2007; 36 (13): 1861-1883
- **Quantitative classification of near-fault ground motions using wavelet analysis** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Baker, J. W.
  2007; 97 (5): 1486-1501

- **Correlation of ground motion intensity parameters used for predicting structural and geotechnical response** *10th International Conference on Application of Statistics and Probability in Civil Engineering*
  Baker, J. W.
  TAYLOR & FRANCIS LTD.2007: 501–502
- **Principles of risk assessment of engineered systems**
  Faber, M., H., Maes, M., A., Baker, J., W., Vrouwenvelder, T., Takada, T.
  2007
- **Automated identification of velocity pulses in near-fault ground motions** *in Seismological Society of America annual meeting*
  Baker, J., W.
  2007: 1
- **Robustness of structural systems -- a new focus for the joint committee on structural safety (JCSS)**
  Canisius, T., D.G., Sorensen, J., D., Baker, J., W.
  2007
- **Measuring bias in structural response caused by ground motion scaling**
  Baker, J., W.
  2007
- **Decision making subject to aversion of low frequency high consequence events** *in Special Workshop on Risk Acceptance and Risk Communication*
  Faber, M., H., Schubert, M., Baker, J., W.
  2007: 1
- **Modeling spatial correlation of ground motion intensity measures for regional seismic hazard and portfolio loss estimation**
  Park, J., Bazzurro, P., Baker, J., W.
  2007
- **Assessing the seismic collapse risk of reinforced concrete frame structures, including the effects of modeling uncertainties** *in Special Workshop on Risk Acceptance and Risk Communication*
  Liel, A., Haselton, C., Deierlein, G., G., Baker, J., W.
  2007: 1
- **Spectral shape, epsilon and record selection** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Baker, J. W., Cornell, C. A.
  2006; 35 (9): 1077-1095
- **Which spectral acceleration are you using?** *EARTHQUAKE SPECTRA*
  Baker, J. W., Cornell, C. A.
  2006; 22 (2): 293-312
- **Correlation of response spectral values for multicomponent ground motions** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Baker, J. W., Cornell, C. A.
  2006; 96 (1): 215-227
- **Spatial covariance of ground motions in NGA data** *American Geophysical Union (AGU) Fall Meeting*
  Evans, J., R., Baker, J., W.
  2006: 1
- **On the quantification of robustness of structures** *25th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2006)*
  Faber, M. H., Maes, M. A., Straub, D., Baker, J.
  AMER SOC MECHANICAL ENGINEERS.2006: 79–87
- **On the quantification of robustness of structures**
  Faber, M., Maes, M., A., Straub, D., Baker, J., W.
  2006
- **Impact of long-term material degradation on seismic performance of a reinforced concrete bridge**

Matsuki, S., Billington, S., L., Baker, J., W.
2006

- **Accounting for soil spatial variability when assessing liquefaction risk**
  Baker, J., W., Bayraktarli, Y., Y., Faber, M.
  2006
- **Quantitative classification of near-fault ground motions**
  Baker, J., W.
  2006
- **Ground motion intensity measures for collapse capacity prediction: Choice of optimal spectral period and effect of spectral shape**
  Haselton, C., Baker, J., W.
  2006
- **Geostatistics for modeling of soil spatial variability in Adapazari, Turkey**
  Baker, J., W., Faber, M., H.
  2006
- **Sampling strategies to detect threshold excursions in random fields**
  Baker, J., W., Faber, M., H.
  2006
- **A vector-valued ground motion intensity measure consisting of spectral acceleration and epsilon** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Baker, J. W., Cornell, C. A.
  2005; 34 (10): 1193-1217
- **Vector-Valued Ground Motion Intensity Measures for Probabilistic Seismic Demand Analysis** *Ph.D. Thesis, Stanford University*
  Baker, J., W.
  2005: 1
- **Disaggregation of Seismic Drift Hazard.**
  Baker, J., W., Cornell, C., A., Tothong, P.
  2005
- **Choice of a Vector of Ground Motion Intensity Measures for Seismic Demand Hazard Analysis.**
  Baker, J., W., Cornell, C., A.
  2004
- **Uncertainty Specification and Propagation for Loss Estimation Using FOSM Methods** *PEER Technical Report 2003/07.*
  Baker, J., W., Cornell, C., A.
  2003: 1
- **Uncertainty Specification and Propagation for Loss Estimation Using FOSM Methods.**
  Baker, J., W., Cornell, C., A.
  2003
- **Uncertainty specification and propagation for loss estimation using FOSM methods** *APPLICATIONS OF STATISTICS AND PROBABILITY IN CIVIL ENGINEERING, VOLS 1 AND 2*
  Baker, J. W., Cornell, C. A.
  2003: 669-676