



## Gregory Deierlein

John A. Blume Professor in the School of Engineering  
Civil and Environmental Engineering

### CONTACT INFORMATION

- **Administrator**

Racquel Hagen - Administrative Associate

**Email** racquelh@stanford.edu

**Tel** (650) 723-4150

### Bio

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#### BIO

Deierlein's research focuses on improving limit states design of constructed facilities through the development and application of nonlinear structural analysis methods and performance-based design criteria. Recent projects include the development and application of strength and stiffness degrading models to simulate steel and reinforced concrete structures, seismic design and behavior of composite steel-concrete buildings, analysis of inelastic torsional-flexural instability of steel members, and a fracture mechanics investigation of seismically designed welded steel connections.

#### ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering

#### ADMINISTRATIVE APPOINTMENTS

- Director, John A. Blume Earthquake Engineering Center, (2002- present)

#### HONORS AND AWARDS

- Honorary Member, Earthquake Engineering Research Institute (2023)
- Honorary Member, Structural Engineers Association of Northern California (2022)
- Distinguished Member, American Society of Civil Engineers (2019)
- Shortridge Hardesty Award, American Society of Civil Engineers (2018)
- Academy of Distinguished Alumni, Department of Civil and Environmental Engineering, UC Berkeley (2016)
- Distinguished Lectureship, Earthquake Engineering Research Institute (2016)
- Krawinkler Award, Structural Engineers Association of Northern California (2016)
- Lifetime Achievement Award, American Institute of Steel Construction (2016)
- Mosseiff Award, American Society of Civil Engineers (2016)
- Academy of Distinguished Alumni, Department of Civil and Environmental Engineering, UT Austin (2014)
- Earthquake Spectra - Outstanding Paper Award, Earthquake Engineering Research Institute (2013, 2009)
- Elected Member, National Academy of Engineering (2013)

- Breakthrough Award, Popular Mechanics (2010)
- Top 25 Newsmakers of 2009, Engineering News-Record (2009)
- Norman Medal, American Society of Civil Engineers (2008, 2002, 1994)
- Raymond Reese Research Prize, American Society of Civil Engineers (2003, 1991)
- Special Achievement Award, American Institute of Steel Construction (2003)
- State-of-the-Art Award, American Society of Civil Engineers (2000,1995)
- Huber Research Prize, American Society of Civil Engineers (2000)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, Board of Directors, Earthquake Engineering Research Institute (2016 - 2020)
- Member, National Academy of Engineering (2013 - present)
- Member, Board of Trustees, Geohazards International (2016 - present)
- Member, Specification Committee, American Institute of Steel Construction (1992 - present)

## **PROFESSIONAL EDUCATION**

- PhD, University of Texas, Austin (1988)
- MS, University of California at Berkeley (1982)
- BS, Cornell University (1981)

## **Teaching**

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### **COURSES**

#### **2025-26**

- Advanced Structural Analysis: CEE 280 (Aut)
- Structural Design: CEE 182 (Win)

#### **2024-25**

- Advanced Structural Analysis: CEE 280 (Aut)

#### **2023-24**

- Advanced Structural Analysis: CEE 280 (Aut)
- Nonlinear Structural Analysis: CEE 282 (Win)
- Seismic Design Workshop: CEE 83 (Aut)
- Structural Design: CEE 182 (Win)

#### **2022-23**

- Advanced Structural Analysis: CEE 280 (Aut)
- Nonlinear Structural Analysis: CEE 282 (Win)
- Structural Design: CEE 182 (Win)

## **STANFORD ADVISEES**

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

Bryam Astudillo Carpio

### **Orals Chair**

Bernardita Ried Guachalla

**Doctoral Dissertation Advisor (AC)**

Mia Lochhead, Juan Valois Martinez

**Master's Program Advisor**

Emilio Cervantes, Fang Fang, Madelyn Grant, Faatira Azzahra Scientiva Kurniaprmono, Angelina Lee, Hana Thibault

**Doctoral (Program)**

Carmen Andrade von Hillebrandt, Christianos Burlotos, Mia Lochhead, Juan Valois Martinez

## Publications

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### PUBLICATIONS

- **Exposure matters: A synthesis framework for high-resolution building inventory development** *INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION*  
Lochhead, M., Zsarnoczay, A., Deierlein, G. G.  
2026; 139
- **Systematic Training and Validation of Parameterized Probabilistic Learning on Manifolds Surrogate Model for Seismic Performance Assessment of Highway Bridges** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Lee, J., Lochhead, M., Zhong, K., Deierlein, G. G.  
2025
- **An open-source simulation platform to support and foster research collaboration in natural hazards engineering** *FRONTIERS IN BUILT ENVIRONMENT*  
Zsarnoczay, A., Deierlein, G. G., McKenna, F., Schoettler, M., Yi, S., Cetiner, B., Satish, A., Zhao, J., Bonus, J., Melaku, A. F., Naeimi, S., Arduino, P., Davidson, et al  
2025; 11
- **Development and validation of a model to calculate full-range response of bolted angle cleats in bending** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Zhou, J., Yan, S., Rasmussen, K. J. R., Deierlein, G. G.  
2025; 228
- **Digitally Augmented Database of Fracture-Critical Steel Beam-to-Column Connection Tests** *JOURNAL OF STRUCTURAL ENGINEERING*  
Galvis, F. A., Deierlein, G. G., Yen, W., Molina Hutt, C., Francisco Correal, J.  
2025; 151 (4)
- **Simulation of longitudinal reinforcing steel bar fracture in reinforced concrete walls** *BULLETIN OF EARTHQUAKE ENGINEERING*  
Navarro Carranza, J., Deierlein, G. G., Zhong, K.  
2024
- **Database of tall pre-Northridge steel moment frames for earthquake performance evaluations** *EARTHQUAKE SPECTRA*  
Galvis, F. A., Deierlein, G. G., Hutt, C.  
2024; 40 (4): 2917-2946
- **Generalised component method for bolted bearing type connections incorporating block shear failure** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Zhou, J., Rasmussen, K. J. R., Yan, S., Deierlein, G. G., Zhang, H.  
2024; 220
- **Measurement of strengths and fracture initiation strains of weld metal and HAZ in steel joints using miniature coupons** *ENGINEERING FRACTURE MECHANICS*  
Liu, X., Yan, S., Zhou, J., Rasmussen, K. J. R., Deierlein, G. G.  
2024; 307
- **Generalised component method for bolted bearing type connections** *STEEL CONSTRUCTION-DESIGN AND RESEARCH*

Zhou, J., Yan, S., Zhang, H., Rasmussen, K. J. R., Deierlein, G. G.  
2024

- **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
- **Calibrating an adaptive cohesive zone model to simulate ductile crack propagation in structural steel under cyclic loading** *FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES*  
Ziccarelli, A., Kanvinde, A., Deierlein, G.  
2023
- **Response spectrum method for structures subjected to vertical ground motions: Absolute acceleration method** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Acosta, A. A., Miranda, E., Deierlein, G. G.  
2023
- **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
- **Surrogate modeling of structural seismic response using probabilistic learning on manifolds** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Zhong, K., Navarro, J. G., Govindjee, S., Deierlein, G. G.  
2023
- **Cyclic adaptive cohesive zone model to simulate ductile crack propagation in steel structures due to ultra-low cycle fatigue** *FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES*  
Ziccarelli, A., Kanvinde, A., Deierlein, G.  
2023
- **Community Perspectives on Simulation and Data Needs for the Study of Natural Hazard Impacts and Recovery** *NATURAL HAZARDS REVIEW*  
Zsarnoczay, A., Deierlein, G. G., Williams, C. J., Kijewski-Correa, T. L., Esnard, A., Lowes, L. N., Johnson, L.  
2023; 24 (1)
- **A thermodynamically consistent finite strain phase field approach to ductile fracture considering multi-axial stress states** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*  
Vajari, S., Neuner, M., Arunachala, P., Ziccarelli, A., Deierlein, G., Linder, C.  
2022; 400
- **Experimental investigation of the effect of Lode angle on fracture initiation of steels** *ENGINEERING FRACTURE MECHANICS*  
Liu, X., Yan, S., Rasmussen, K. J. R., Deierlein, G. G.  
2022; 271
- **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
- **Verification of void growth-based exponential damage function for ductile crack initiation over the full range of stress triaxialities** *ENGINEERING FRACTURE MECHANICS*  
Liu, X., Yan, S., Rasmussen, K. J. R., Deierlein, G. G.  
2022; 269
- **Site-specific adjustment framework for incremental dynamic analysis (SAF-IDA)** *Earthquake Spectra*  
Zhong, K., Chandramohan, R., Baker, J. W., Deierlein, G. G.  
2022
- **Integration of an adaptive cohesive zone and continuum ductile fracture model to simulate crack propagation in steel structures** *ENGINEERING FRACTURE MECHANICS*

- Pericoli, V., Lao, X., Ziccarelli, A., Kanvinde, A., Deierlein, G.  
2021; 258
- **A stress-weighted ductile fracture model for steel subjected to Ultra Low Cycle Fatigue** *ENGINEERING STRUCTURES*  
Smith, C., Ziccarelli, A., Terashima, M., Kanvinde, A., Deierlein, G.  
2021; 245
  - **Influence of High-Strength Reinforcing Bars on Seismic Safety of Concrete Frames** *ACI STRUCTURAL JOURNAL*  
Zhong, K., Ghannoum, W. M., Deierlein, G. G.  
2021; 118 (5): 299-311
  - **Generalized modified modal superposition procedure for seismic design of rocking and pivoting steel spine systems** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Martin, A., Deierlein, G. G.  
2021; 183
  - **A Cloud-Enabled Application Framework for Simulating Regional-Scale Impacts of Natural Hazards on the Built Environment** *FRONTIERS IN BUILT ENVIRONMENT*  
Deierlein, G. G., McKenna, F., Zsarnoczay, A., Kijewski-Correa, T., Kareem, A., Elhaddad, W., Lowes, L., Schoettler, M. J., Govindjee, S.  
2020; 6
  - **Tall building performance-based seismic design using SCEC broadband platform site-specific ground motion simulations** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Zhong, K., Lin, T., Deierlein, G. G., Graves, R. W., Silva, F., Luco, N.  
2020
  - **Parametric Study of Seismic Isolation Properties for Light-Frame Houses** *JOURNAL OF STRUCTURAL ENGINEERING*  
Jampole, E., Swensen, S., Miranda, E., Deierlein, G. G.  
2020; 146 (10)
  - **Probabilistic Space- and Time-Interaction Modeling of Mainshock Earthquake Rupture Occurrence** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*  
Ceferino, L., Kiremidjian, A., Deierlein, G.  
2020; 110 (5): 2498–2518
  - **Effective plans for hospital system response to earthquake emergencies.** *Nature communications*  
Ceferino, L., Mitrani-Reiser, J., Kiremidjian, A., Deierlein, G., Bambaren, C.  
2020; 11 (1): 4325
  - **Structural topology optimization of tall buildings for dynamic seismic excitation using modal decomposition** *ENGINEERING STRUCTURES*  
Martin, A., Deierlein, G. G.  
2020; 216
  - **Efficient intensity measures and machine learning algorithms for collapse prediction of tall buildings informed by SCEC CyberShake ground motion simulations** *EARTHQUAKE SPECTRA*  
Bijelic, N., Lin, T., Deierlein, G. G.  
2020; 36 (3): 1188–1207
  - **Predicting earthquake-induced sliding displacements using effective incremental ground velocity** *EARTHQUAKE SPECTRA*  
Jampole, E., Miranda, E., Deierlein, G. G.  
2020; 36 (1): 378–99
  - **Quantification of the Influence of Deep Basin Effects on Structural Collapse Using SCEC CyberShake Earthquake Ground Motion Simulations** *EARTHQUAKE SPECTRA*  
Bijelic, N., Lin, T., Deierlein, G. G.  
2019; 35 (4): 1845–64
  - **Evaluation of Building Collapse Risk and Drift Demands by Nonlinear Structural Analyses Using Conventional Hazard Analysis versus Direct Simulation with CyberShake Seismograms** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*  
Bijelic, N., Lin, T., Deierlein, G. G.  
2019; 109 (5): 1812–28

- **Proposed Updates to the ASCE 41 Nonlinear Modeling Parameters for Wide-Flange Steel Columns in Support of Performance-Based Seismic Engineering** *JOURNAL OF STRUCTURAL ENGINEERING*  
Lignos, D. G., Hartloper, A. R., Elkady, A., Deierlein, G. G., Hamburger, R.  
2019; 145 (9)
- **Comparative risk-based seismic assessment of 1970s vs modern tall steel moment frames** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Hutt, C., Rossetto, T., Deierlein, G. G.  
2019; 159: 598–610
- **Capacity Design Procedure for Rocking Braced Frames Using Modified Modal Superposition Method** *JOURNAL OF STRUCTURAL ENGINEERING*  
Martin, A., Deierlein, G. G., Ma, X.  
2019; 145 (6)
- **Development and Testing of a Friction/Sliding Connection to Improve the Seismic Performance of Gypsum Partition Walls** *EARTHQUAKE SPECTRA*  
Araya-Letelier, G., Miranda, E., Deierlein, G.  
2019; 35 (2): 653–77
- **Discussion of "Experimental Evaluation of Single-Bolted Lap Joints at Elevated Temperatures" by Erica C. Fischer, Amit H. Varma, and Qiaqia Zhu** *JOURNAL OF STRUCTURAL ENGINEERING*  
Teh, L. H., Deierlein, G. G.  
2018; 144 (12)
- **Effective Incremental Ground Velocity for Estimating the Peak Sliding Displacement of Rigid Structures to Pulse-Like Earthquake Ground Motions** *JOURNAL OF ENGINEERING MECHANICS*  
Jampole, E., Miranda, E., Deierlein, G.  
2018; 144 (12)
- **Regional Multiseverity Casualty Estimation Due to Building Damage Following a Mw 8.8 Earthquake Scenario in Lima, Peru** *EARTHQUAKE SPECTRA*  
Ceferino, L., Kiremidjian, A., Deierlein, G.  
2018; 34 (4): 1739–61
- **Probabilistic Model for Regional Multiseverity Casualty Estimation due to Building Damage Following an Earthquake** *ASCE-ASME JOURNAL OF RISK AND UNCERTAINTY IN ENGINEERING SYSTEMS PART A-CIVIL ENGINEERING*  
Ceferino, L., Kiremidjian, A., Deierlein, G.  
2018; 4 (3)
- **Validation of the SCEC Broadband Platform simulations for tall building risk assessments considering spectral shape and duration of the ground motion** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Bijelic, N., Lin, T., Deierlein, G. G.  
2018; 47 (11): 2233–51
- **Integrating visual damage simulation, virtual inspection, and collapse capacity to evaluate post-earthquake structural safety of buildings** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Burton, H. V., Deierlein, G. G.  
2018; 47 (2): 294–310
- **Measuring the Impact of Enhanced Building Performance on the Seismic Resilience of a Residential Community** *EARTHQUAKE SPECTRA*  
Burton, H. V., Deierlein, G., Lallemand, D., Singh, Y.  
2017; 33 (4): 1347–67
- **Calibration of Continuum Cyclic Constitutive Models for Structural Steel Using Particle Swarm Optimization** *JOURNAL OF ENGINEERING MECHANICS*  
Smith, C., Kanvinde, A., Deierlein, G.  
2017; 143 (5)
- **A local criterion for ductile fracture under low-triaxiality axisymmetric stress states** *ENGINEERING FRACTURE MECHANICS*  
Smith, C., Kanvinde, A., Deierlein, G.

2017; 169: 321-335

- **Estimation and impacts of model parameter correlation for seismic performance assessment of reinforced concrete structures** *STRUCTURAL SAFETY*  
Gokkaya, B. U., Baker, J. W., Deierlein, G. G.  
2017; 69: 68–78
- **Calibration of Model to Simulate Response of Reinforced Concrete Beam-Columns to Collapse** *ACI STRUCTURAL JOURNAL*  
Haselton, C. B., Liel, A. B., Taylor-Lange, S. C., Deierlein, G. G.  
2016; 113 (6): 1141-1152
- **Rocking Spine for Enhanced Seismic Performance of Reinforced Concrete Frames with Infills** *JOURNAL OF STRUCTURAL ENGINEERING*  
Burton, H. V., Deierlein, G. G., Mar, D., Mosalam, K. M., Rodgers, J., Gunay, S.  
2016; 142 (11)
- **Full-Scale Dynamic Testing of a Sliding Seismically Isolated Unibody House** *EARTHQUAKE SPECTRA*  
Jampole, E., Deierlein, G., Miranda, E., Fell, B., Swensen, S., Acevedo, C.  
2016; 32 (4): 2245-2270
- **Seismic Loss and Downtime Assessment of Existing Tall Steel-Framed Buildings and Strategies for Increased Resilience** *JOURNAL OF STRUCTURAL ENGINEERING*  
Hutt, C. M., Almufti, I., Willford, M., Deierlein, G.  
2016; 142 (8)
- **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
- **Framework for Incorporating Probabilistic Building Performance in the Assessment of Community Seismic Resilience** *JOURNAL OF STRUCTURAL ENGINEERING*  
Burton, H. V., Deierlein, G., Lallemand, D., Lin, T.  
2016; 142 (8)
- **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
- **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
- **Behavior of Screw and Adhesive Connections to Gypsum Wallboard in Wood and Cold-Formed Steel-Framed Wallettes** *JOURNAL OF STRUCTURAL ENGINEERING*  
Swensen, S., Deierlein, G. G., Miranda, E.  
2016; 142 (4)
- **Design Concepts for Controlled Rocking of Self-Centering Steel-Braced Frames** *JOURNAL OF STRUCTURAL ENGINEERING*  
Eatherton, M. R., Ma, X., Krawinkler, H., Mar, D., Billington, S., Hajjar, J. F., Deierlein, G. G.  
2014; 140 (11)
- **Quasi-Static Cyclic Behavior of Controlled Rocking Steel Frames** *JOURNAL OF STRUCTURAL ENGINEERING*  
Eatherton, M. R., Ma, X., Krawinkler, H., Deierlein, G. G., Hajjar, J. F.  
2014; 140 (11)
- **Simulation of Seismic Collapse in Nonductile Reinforced Concrete Frame Buildings with Masonry Infills** *JOURNAL OF STRUCTURAL ENGINEERING*  
Burton, H., Deierlein, G.  
2014; 140 (8)

- **Probabilistic Formulation of the Cyclic Void Growth Model to Predict Ultralow Cycle Fatigue in Structural Steel** *JOURNAL OF ENGINEERING MECHANICS*  
Myers, A. T., Kanvinde, A. M., Deierlein, G. G., Baker, J. W.  
2014; 140 (6)
- **Component model calibration for cyclic behavior of a corrugated shear wall** *THIN-WALLED STRUCTURES*  
Vigh, L. G., Liel, A. B., Deierlein, G. G., Miranda, E., Tipping, S.  
2014; 75: 53-62
- **Component Model Calibration for Cyclic Behaviour of a Corrugated Shear Wall** *Thin Walled Structures*  
Vigh, L., G., Deierlein, G., G., Miranda, E., Liel, A., B.  
2014; 75: 53-62
- **Cost-Benefit Evaluation of Seismic Risk Mitigation Alternatives for Older Concrete Frame Buildings** *EARTHQUAKE SPECTRA*  
Liel, A. B., Deierlein, G. G.  
2013; 29 (4): 1391-1411
- **Seismic performance assessment of steel corrugated shear wall system using non-linear analysis** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Vigh, L. G., Deierlein, G. G., Miranda, E., Liel, A. B., Tipping, S.  
2013; 85: 48-59
- **A Probabilistic Formulation of the Cyclic Void Growth Model to Predict Ultra-Low Cycle Fatigue in Structural Steel** *J. Eng. Mech., 10.1061/(ASCE)EM.1943-7889.0000728*  
Myers, A., Kanvinde, A., Deierlein, G., Baker, J.  
2013
- **Cost-Benefit Evaluation of Seismic Mitigation Alternatives for Older Reinforced Concrete Frame Buildings** *Earthquake Spectra*  
Liel, A., B., Deierlein, G., G.  
in press.2013: 1
- **Quasi-Static Cyclic Behavior of Controlled Rocking Steel Frames** *J. Struct. Eng., accepted for publication*  
Eatherton, M., R., Ma, X., Krawinkler, H., Deierlein, G., G., Hajjar, J., F.  
2013
- **Simulation of Seismic Collapse in Non-Ductile Reinforced Concrete Frame Buildings with Masonry Infills** *J. Struct. Eng., 10.1061/(ASCE)ST.1943-541X.0000921*  
Burton, H., Deierlein, G.  
2013
- **Seismic Performance Assessment of a Steel Corrugated Shear Wall System Using Non-linear Analysis** *Jl. of Constr. Steel Research*  
Vigh, L., G., Deierlein, G., G., Miranda, E., Liel, A., B., Tipping, S.  
2013; 85: 48-59
- **Using Collapse Risk Assessments to Inform Seismic Safety Policy for Older Concrete Buildings** *EARTHQUAKE SPECTRA*  
Liel, A. B., Deierlein, G. G.  
2012; 28 (4): 1495-1521
- **Expected earthquake damage and repair costs in reinforced concrete frame buildings** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*  
Ramirez, C. M., Liel, A. B., Mitrani-Reiser, J., Haselton, C. B., Spear, A. D., Steiner, J., Deierlein, G. G., Miranda, E.  
2012; 41 (11): 1455-1475
- **Seismic Assessment of Typical 1970's Tall Steel Moment Frame Buildings in Downtown San Francisco**  
Ibrahim, A., Molina-Hutt, C., Willford, M., Deierlein, G., G.  
2012
- **Toward a Performance-Based Design Framework for Self-Centering Rocking Braced-Frame Spine systems**  
Eatherton, M., R., Deierlein, G., G., Ma, X., Krawinkler, H., Hajjar, J., F.  
2012

- **Seismic Retrofit of Non-Ductile Reinforced Concrete Infill Frame Building Using Rocking Spines**  
Burton, H., Deierlein, G., G.  
2012
- **Preliminary Assessment of Ground Motion Duration Effects on Structural Collapse**  
Foschaar, J., C., Baker, J., W., Deierlein, G., G.  
2012
- **On the Role of Nonlinear Analysis in the Seismic Performance Assessment of Buildings**  
Deierlein, G., G.  
2012
- **Novel Design Methods for Improved Damage Resistance of Light-Weight Framed Structures**  
Swensen, S., Miranda, M., Deierlein, G., G.  
2012
- **Towards Creating Earthquake-Safe Communities: Seismic Retrofit of an Adobe School Building in Rural Peru Using Geomesh**  
Cedillos, V., Tucker, B., Blondet, M., Carpio, J., Quispe, J., Rondon, S., Deierlein, Gregory, G.  
2012
- **Performance-Based Earthquake Engineering: Innovations for Resilient Buildings and Communities** *Invited Plenary Lecture for Performance-Based and Life-Cycle Structural Engineering, Hong Kong*  
Deierlein, G., G.  
2012
- **Design Features and Criteria For Controlled Rocking Braced-Frame Systems**  
Deierlein, G., G., Eatherton, M., Ma, X., Hajjar, J., F.  
2012
- **Seismic Collapse Safety of Reinforced Concrete Buildings. II: Comparative Assessment of Nonductile and Ductile Moment Frames** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*  
Liel, A. B., Haselton, C. B., Deierlein, G. G.  
2011; 137 (4): 492-502
- **Seismic Collapse Safety of Reinforced Concrete Buildings. I: Assessment of Ductile Moment Frames** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*  
Haselton, C. B., Liel, A. B., Deierlein, G. G., Dean, B. S., Chou, J. H.  
2011; 137 (4): 481-491
- **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
- **Experimental Investigation of Shear Transfer in Exposed Column Base Connections** *ENGINEERING JOURNAL-AMERICAN INSTITUTE OF STEEL CONSTRUCTION*  
Gomez, I. R., Kanvinde, A. M., Deierlein, G. G.  
2011; 48 (4): 245-264
- **Earthquake Resilient Steel Braced Frames with Controlled Rocking and Energy Dissipating Fuses** *Steel Construction: Design and Research*  
Deierlein, G., G., Ma, X., Eatherton, M., Hajjar, J., Krawinkler, H., Takeuchi, T.  
Wiley.2011: 171–175
- **Tohoku Pacific Ocean Earthquake and Tsunami: Quick observations from the PEER/EERI/GEER/Tsunami Field Investigation Team**  
Mahin, S., Deierlein, G., Mosqueda, G., Scawthorn, C., Youssef, H., Kramer, S.  
2011
- **Seismic Design, Simulation and Shake Table Testing of Self-Centering Braced Frame with Controlled Rocking and Energy Dissipating Fuses**, *J.A. Blume Earthquake Engrg. Center, TR 174, Stanford Universit*  
Ma, X., Krawinkler, H., Deierlein, G., G.

2011

- **Earthquake Engineering and Research Needs in the Planning, Design, Construction and Operation of Buildings** *Grand Challenges in Earthquake Engineering Research: A Community Workshop Report, National Research Council, invited and reviewed keynote presentation*  
Deierlein, G., G.  
2011: 58-64
- **Capacity Design in Seismic Resistant Steel Buildings – A Reliability-Based Methodology to Establish Capacity- Design Factors** *Eurosteel 2011, Budapest, Paper A-0380*  
Victorsson, V., K., Deierlein, G., G., Baker, J., W.  
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