



## Gregory Deierlein

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

### CONTACT INFORMATION

- **Administrator**

Racquel Hagen - Administrative Associate

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### 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

- 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)
- Elected Member, National Academy of Engineering (2013)
- Breakthrough Award, Popular Mechanics (2010)
- Earthquake Spectra - Outstanding Paper Award, Earthquake Engineering Research Institute (2009, 2013)
- Top 25 Newsmakers of 2009, Engineering News-Record (2009)
- Special Achievement Award, American Institute of Steel Construction (2003)

- Huber Research Prize, American Society of Civil Engineers (2000)
- State-of-the-Art Award, American Society of Civil Engineers (1995, 2000)
- Norman Medal, American Society of Civil Engineers (1994, 2002, 2008)
- Raymond Reese Research Prize, American Society of Civil Engineers (1991, 2003)

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

- Member, National Academy of Engineering (2013 - present)
- Member, Board of Directors, Earthquake Engineering Research Institute (2016 - 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**

#### **2018-19**

- Advanced Structural Analysis: CEE 280 (Aut)
- Integrated Civil Engineering Design Project: CEE 183 (Spr)
- Nonlinear Structural Analysis: CEE 282 (Win)

#### **2017-18**

- Advanced Structural Analysis: CEE 280 (Aut)
- Integrated Civil Engineering Design Project: CEE 183 (Spr)
- Nonlinear Structural Analysis: CEE 282 (Win)
- Seismic Design Workshop: CEE 83 (Aut)

#### **2016-17**

- Advanced Structural Analysis: CEE 280 (Aut)
- Integrated Civil Engineering Design Project: CEE 183 (Spr)
- Nonlinear Structural Analysis: CEE 282 (Win)

#### **2015-16**

- Advanced Structural Analysis: CEE 280 (Aut)
- Integrated Civil Engineering Design Project: CEE 183 (Spr)
- Nonlinear Structural Analysis: CEE 282 (Win)
- Structural Engineering and Geomechanics Seminar: CEE 298 (Win)

### **STANFORD ADVISEES**

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

Pablo Camilo Heresi Venegas

**Postdoctoral Faculty Sponsor**

David Welch

**Master's Program Advisor**

Pablo Camilo Heresi Venegas, Nicholas Johnston, Vianey Villalobos-Zuniga

**Doctoral (Program)**

Andres Acosta Vera

**Publications**

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**PUBLICATIONS**

- **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)
- **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)
- **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 Wallties** *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.  
2011: 6
- **Assessing the Scale of Environmental Impacts from a Major California Earthquake Recovery**  
Burton, H., Deierlein, G., G., Lepech, M.  
2011
- **Shaking Table Test of Controlled Rocking Frames Using Multipurpose Testbed** *Eurosteel 2011, Budapest, Hungary, Paper A-0301*  
Takeuchi, T., Midorikawa, M., Kasai, K., Deierlein, G.  
2011: 6
- **Nonlinear Structural Analysis for Seismic Design: A Guide for Practicing Engineers** *NEHRP Seismic Design Technical Brief 4, NIST GCR 10-917-5*  
Deierlein, G., G., Reinhorn, A., M., Wilford, M., R.

2011

- **NEES 2011 vision Report on Computational and Hybrid Simulation: Needs and Opportunities** *Committee on Simulation, Network for Earthquake Engineering Simulation*  
Deierlein, G., G., Arduino, P., Assimaki, D., Caicedo, J., Dyke, S., Hachem, M.  
2011
- **Local Cyclic Void Growth Criteria for Ductile Fracture Initiation in Steel Structures with Significant Yielding** *Eurosteel 2011, Budapest, Paper A-0380*  
Deierlein, G., G., Kanvinde, A., Myers, A., Fell, B.  
2011: 6
- **Earthquake Engineering Research Needs in the Planning, Design, Construction and Operation of Buildings** *Invited white paper and keynote presentation, NRC Workshop on Grand Challenges in Earthquake Engineering Research, Beckman Center*  
Deierlein, G., G.  
2011: 13
- **Calibration of the SMCS Criterion for Ductile Fracture in Steels: Specimen Size Dependence and Parameter Assessment** *JOURNAL OF ENGINEERING MECHANICS-ASCE*  
Myers, A. T., Kanvinde, A. M., Deierlein, G. G.  
2010; 136 (11): 1401-1410
- **Benefit-Cost Evaluation of Seismic Risk Mitigation in Existing Non-ductile Concrete Buildings** *Workshop on Advances in Performances-Based Earthquake Engineering*  
Deierlein, G., Liel, A.  
SPRINGER.2010: 341–348
- **Large-Scale Shaking Table Test of Steel Braced Frame with Controlled Rocking and Energy-Dissipating Fuses**  
Ma, X., Deierlein, G., G., Eatherton, M., Krawinkler, H., Hajjar, J., F., Takeuchi, T.  
2010
- **Chapter 32: Benefit-Cost Evaluation of Seismic Risk Mitigation in Existing Non-Ductile Concrete Buildings** *Advances in Performance- Based Earthquake Engineering*  
Deierlein, G., G., Liel, A., B.  
edited by Fardis, Springer, M.  
2010: 1
- **Seismic Resilience of Self-Centering Steel Braced Frames with Replaceable Energy-Dissipating Fuses – Part I: Large-Scale Cyclic Testing**  
Hajjar, J., Eatherton, M., Ma, X., Deierlein, G., G., Krawinkler, H., Billington, S., B.  
2010
- **Example Application of the FEMA P695 (ATC-63) Methodology for the Collapse Performance Evaluation of Reinforced Concrete Special Moment Frame Systems**  
Haselton, C., B., Liel, A., B., Deierlein, G., G.  
2010
- **Seismic Resilience of Self-Centering Steel Braced Frames with Replaceable Energy-Dissipating Fuses – Part II: E-Defense Shake Table Test**  
Deierlein, G., G., Ma, X., Hajjar, J., Eatherton, M., Krawinkler, H., Takeuchi, T.  
2010
- **Design and behavior of steel shear plates with openings as energy-dissipating fuses** *J.A. Blume Earthquake Engineering Center, TR 173, Stanford University*  
Ma, X., Borchers, E., Peña, A., Krawinkler, H., Billington, S., Deierlein, G.  
2010
- **Hybrid Simulation Testing of a Controlled Rocking Steel Braced Frame System**  
Eatherton, M., Hajjar, J., F., Deierlein, G., G., Ma, X., Krawinkler, H.  
2010
- **Hybrid Simulation Testing of a Controlled Rocking Steel Braced Frame System**  
Eatherton, M., Hajjar, J., Deierlein, G., G., Ma, X., Krawinkler, H.  
2010

- **Seismic Design and Behavior of Steel Frames with Controlled Rocking – Part II: Large Scale Shake Table Testing and System Collapse Analysis** *ASCE Structures Congress 2010*  
Ma, X., Eatherton, M., Hajjar, J., Krawinkler, H., Deierlein, G., G.  
2010: 10
- **Large-Scale Shaking Table Test of Steel Braced Frame with Controlled Rocking and Energy Dissipating Fuses**  
Ma, X., Deierlein, M., Krawinkler, H., Hajjar, J., Takeuchi, T., Kasai, K.  
2010
- **Nonlinear Analysis of Post-Tensioned Concrete Walls that Minimize Residual Drifts Under Seismic Loading**  
Ohmura, T., Deierlein, G., G.  
2010
- **Seismic Design and Behavior of Steel Frames with Controlled Rocking – Part I: Concepts and Quasi-Static Subassembly Testing** *ASCE Structures Congress 2010*  
Eatherton, M., Hajjar, J., Ma, X., Krawinkler, H., Deierlein, G., G.  
2010: 10
- **Modeling and Acceptance Criteria for Seismic Design and Analysis of Tall Buildings** *PEER/ATC Report 72-1, Applied Technology Council, Redwood City, CA*  
Malley, J., O., Deierlein, G., G., Krawinkler, H., Maffei, J.R., Pourzanjani, M., Wallace, J.  
2010: 242
- **Evaluation of the FEMA P-695 Methodology for Quantification of Building Seismic Performance Factors** *NIST GCR 10-917-8*  
Kircher, C., Deierlein, G., G., Hooper, J., Krawinkler, H., Mahin, S., Shing, B.  
2010: 268
- **ASCE-41 and FEMA-351 Evaluation of E-Defense Collapse Test** *EARTHQUAKE SPECTRA*  
Maison, B. F., Kasai, K., Deierlein, G.  
2009; 25 (4): 927-953
- **Effect of weld details on the ductility of steel column baseplate connections** *JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH*  
Myers, A. T., Kanvinde, A. M., Deierlein, G. G., Fell, B. V.  
2009; 65 (6): 1366-1373
- **Experimental Investigation of Inelastic Cyclic Buckling and Fracture of Steel Braces** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*  
Fell, B. V., Kanvinde, A. M., Deierlein, G. G., Myers, A. T.  
2009; 135 (1): 19-32
- **Preliminary Results of a Cost-Benefit Assessment of Replacing Seismically Vulnerable Non-Ductile Reinforced Concrete Frame Structures**  
Liel, A., B., Deierlein, G., G.  
2009
- **Why are large-scale experiments of structural components and systems needed?** *Invited Paper: First Joint Planning Meeting for the Second Phase of NEES/E-Defense Collaborative Research on Earthquake Engineering, PEER 2009/101, NSF Arlington, VA*  
Deierlein, G., G.  
2009: 3
- **Testing and Probabilistic Simulation of Ductile Fracture Initiation in Structural Steel Components and Weldments** *Blume Technical Report 170*  
Myers, A., T., Deierlein, G., G., Kanvinde, A.  
2009: 386
- **International Collaborations on the Seismic Design and Behavior of Composite RCS Moment Frames**  
Deierlein, G., G.  
2009
- **Important Issues and Suggested Best Practices in Simulating Structural Collapse Due to Earthquakes: Modeling Decisions, Model Calibration and Numerical Solution Algorithms**  
Haselton, C., B., Liel, A., B., Deierlein, G., G.  
2009



- **Controlled Rocking of Steel-Framed Buildings with Replaceable Energy Dissipating Fuses** *Invited Presentations: (1) Disaster Prevention Research Institute of Kyoto University (12/21/09), (2) PEER Annual Meeting, San Francisco (12/16/09), (3) UC Berkeley Fall Seminar (9/2010), (4) NEES Annual meeting, San Francisco (10/2010), (5) NSF-CMMI Annual Meeting, Atlanta*  
Deierlein, G., G.  
2009, 2010, 2011
- **ATC 63 Project Team, FEMA P695, Federal Emergency Management Agency** *Quantification of Building Seismic Performance Factor*  
Deierlein, G., G.  
2009: 421
- **Seismically Resilient Steel Braced Frame Systems with Controlled Rocking and Energy Dissipating Fuses**  
Deierlein, G., G., Hajjar, J., Eatherton, M., Billington, S., Krawinkler, H., Ma, X.  
2009
- **Collaborative Research on Development of Innovative Steel Braced Frame Systems with Controlled Rocking and Replaceable Fuses**  
Deierlein, G., G., Ma, X., Eatherton, M., Krawinkler, H., Billington, S., Hajjar, J.  
2009
- **The Mw 7.6 Western Sumatra Earthquake of September, 30, 2009** *EERI Special Earthquake Report*  
Deierlein, G., G., Alexander, N., Cedillos, V., Comfort, L., Hart, T., Hausler, E.  
2009: 12
- **Engineering Challenges: Socio-economic considerations in earthquake engineering** *Invited Paper: First Joint Planning Meeting for the Second Phase of NEES/E-Defense Collaborative Research on Earthquake Engineering, PEER 2009/101, NSF Arlington, VA*  
Deierlein, G., G.  
2009: 3
- **Dynamic analysis based seismic performance quantification of steel corrugated shear wall system** *The Twelfth International Conf. on Civil, Structural and Environmental Engineering Computing (CC2009), Portugal, Civil-Com Press*  
Vigh, L., G., Deierlein, G., G., Miranda, E., Liel, A., B., Tipping, S.  
2009: 15
- **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
- **Validation of cyclic void growth model for fracture initiation in blunt notch and dogbone steel specimens** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*  
Kanvinde, A. M., Deierlein, G. G.  
2008; 134 (9): 1528-1537
- **Comparing Seismic Collapse Safety of Modern and Existing Reinforced Concrete Frame Structures in California** *2008 ASCE-SEI Structure's Congress 2008: Crossing Borders, Paper 246*  
Liel, A., B., Haselton, C., B., Deierlein, G., G.  
2008: 8
- **Quantification of Building System Performance and Response Parameters**  
Deierlein, G., G.  
2008
- **Seismic Performance of Steel Corrugated Shear Wall: Analytical Model Calibration and Performance Qualification**  
Vigh, L., G., Deierlein, G., G., Miranda, E., Tipping, S.  
2008
- **Assessing Building System Collapse Performance and Associated Design Requirements for Seismic Design**  
Deierlein, G., G., Liel, A., B., Haselton, C., B., Kircher, C., A.  
2008
- **Comparative Assessment of Collapse Safety of Reinforced-Concrete Moment Frame Buildings**  
Liel, A., B., Haselton, C., B., Deierlein, G., G.

2008

- **Controlled Rocking of Steel Framed Buildings as a Sustainable New Technology for Seismic Resistance in Buildings** *Creating and Renewing Urban Structures, Chicago, Illinois, International Association for Bridge and Structural Engineering, Zurich, Switzerland*  
Hajjar, J., F., Eatherton, M., Deierlein, G., G., Ma, X., Pena, A., Krawinkler, H.  
in press.2008: 10
- **Assessing the Collapse Risk of California's Existing Reinforced Concrete Frame Structures: Metrics for Seismic Safety Decisions** *Blume Technical Report 166*  
Liel, A., B., Deierlein, G., G.  
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