Stanford

Eduardo Miranda

Professor of Civil and Environmental Engineering

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

Prof. Miranda specializes in structural engineering with emphasis on performance-based earthquake engineering. Using measurements made on the ground and on instrumented structures he studies how structures respond to earthquakes and conducts research to assess the impacts of earthquakes on structures and on society in general. He then uses this knowledge to develop ways to design and build structures that will have an improved performance. Also interested in developing computer tools for automating analysis, design and construction.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering

ADMINISTRATIVE APPOINTMENTS

- Professor, Dept. of Civil and Environmental Engineering, Stanford University, (2016- present)
- Associate Professor, Dept. of Civil and Environmental Engineering, Stanford University, (2006-2016)
- Assistant Professor, Dept. Of Civil and Environmental Engineering, Stanford University, (1999-2006)

HONORS AND AWARDS

- President's Award, Los Angeles Tall Buildings Structural Design Council (2018)
- Top 25 Newsmakers, Engineering News Record (2015)
- Moisseiff Award, American Society of Civil Engineers (2006)
- Outstanding Journal Paper, Los Angeles Tall Buildings Structural Design Council (2006)
- Best conference paper, First Conf. on Future of Archt., Engnrg. & Construction Industry, Building Futures Council (2005)
- Special Citation, Major of Mexico City for technical contributions to the improvement of the Mexico City building code (2003)
- Terman Fellow, School of Engineering, Stanford University (2003)
- Special Citation, Governor of California, George Deukmijian for research conducted after the Loma Prieta earthquake (1990)

PROFESSIONAL EDUCATION

- PhD, University of California at Berkeley , Structural Engineering (1991)

- MSc, University of California at Berkeley , Structural Engineering (1988)
- Civil Engineer, National Autonomous University of Mexico (UNAM) , Civil Engineering (1986)

LINKS

- Publications at Google Scholar: https://scholar.google.com/citations?hl=en&user=_lYdXdgAAAAJ

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Regional seismic risk assessment, ground motion directionality

Teaching

COURSES

2023-24

- Advanced Structural Steel Behavior and Design: CEE 285B (Win)
- Earthquake Resistant Design and Construction: CEE 287 (Spr)
- Performance-Based Earthquake Engineering: CEE 385 (Aut)

2022-23

- Advanced Structural Steel Behavior and Design: CEE 285B (Win)
- Earthquake Resistant Design and Construction: CEE 287 (Spr)
- Performance-Based Earthquake Engineering: CEE 385 (Aut)

2021-22

- Advanced Structural Steel Behavior and Design: CEE 285B (Win)
- Earthquake Resistant Design and Construction: CEE 287 (Spr)
- Performance-Based Earthquake Engineering: CEE 385 (Aut)

2020-21

- Advanced Structural Steel Behavior and Design: CEE 285B (Spr)
- Earthquake Resistant Design and Construction: CEE 287 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

James Bantis

Master's Program Advisor

Sergio Chimal Ramírez, Derin Dalgic, Utkarsh Gupta, Weixuan Lu, Weize Ou, Yiling Pan, Boran Qin, Sagar Tripathy

Doctoral (Program)

Nathan Girmay

Publications

PUBLICATIONS

- **Orientation and intensity of maximum response spectral ordinates during the December 20, 2022 Mw 6.4 Ferndale, California earthquake** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*

Girmay, N., Miranda, E., Poulos, A.
2024; 176

- **Effect of Style of Faulting on the Orientation of Maximum Horizontal Earthquake Response Spectra** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Poulos, A., Miranda, E.
  2023; 113 (5): 2092-2105
- **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
- **RPBEE: Performance-based earthquake engineering on a regional scale** *EARTHQUAKE SPECTRA*
  Heresi, P., Miranda, E.
  2023; 39 (3): 1328-1351
- **Regional-risk-targeted seismic design: A novel approach for earthquake resistant design** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Heresi, P., Miranda, E.
  2023
- **Evaluation of random-vibration procedures to estimate response spectral ordinates on soft soil sites from fourier amplitude spectra** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*
  Bantis, J. C., Miranda, E.
  2023; 166
- **Damping-dependent correlations between response spectral ordinates** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Poulos, A., Miranda, E.
  2022
- **Discussion of Post-earthquake fast damage assessment using residual displacement and seismic energy: Application to Mexico City** *EARTHQUAKE SPECTRA*
  Ruiz-Garcia, J., Miranda, E.
  2022; 38 (3): 2281-2285
- **Characterization of the Frictional Behavior of Steel-Polymer Interfaces with Pronounced Stick-Slip Effect for Use in Seismic Isolation** *BULLETIN OF EARTHQUAKE ENGINEERING*
  Messina, A., Miranda, E.
  2022
- **Probabilistic characterization of the directionality of horizontal earthquake response spectra** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Poulos, A., Miranda, E.
  2022
- **Response spectral damping modification factors for structures built on soft soils** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*
  Davalos, H., Miranda, E., Bantis, J., Cruz, C.
  2022; 154
- **Structure-to-structure damage correlation for scenario-based regional seismic risk assessment** *STRUCTURAL SAFETY*
  Heresi, P., Miranda, E.
  2022; 95
- **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
- **Closure to "Fragility Curves and Methodology for Estimating Postearthquake Occupancy of Wood-Frame Single-Family Houses on a Regional Scale" by Pablo Heresi and Eduardo Miranda** *JOURNAL OF STRUCTURAL ENGINEERING*
  Heresi, P., Miranda, E.
  2022; 148 (2)

- **A simplified and versatile element model for elastomeric seismic isolation bearings** *EARTHQUAKE SPECTRA*
  Miranda, S., Miranda, E., Carlos de la Llera, J.
  2022; 38 (1): 331-357
- **Proposal of orientation-independent measure of intensity for earthquake-resistant design** *EARTHQUAKE SPECTRA*
  Poulos, A., Miranda, E.
  2022; 38 (1): 235-253
- **Frictional Behavior of Low-Cost Steel-Polymer Interfaces for Seismic Isolation** *JOURNAL OF STRUCTURAL ENGINEERING*
  Messina, A., Miranda, E.
  2022; 148 (1)
- **Seismic Response of a Typical Shear-Wall Dominated High-Rise Condominium Building during the January 7, 2020, M(w)6.4 Indios, Puerto Rico Earthquake** *JOURNAL OF STRUCTURAL ENGINEERING*
  Celebi, M., Miranda, E., Martinez-Cruzado, J. A.
  2021; 147 (12)
- **Uncertainty on measurement of elastomeric isolators effective properties** *MEASUREMENT*
  Miranda, S., Carlos de la Llera, J., Miranda, E.
  2021; 180
- **Relations between MaxRotD50 and Some Horizontal Components of Ground-Motion Intensity Used in Practice** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Poulos, A., Miranda, E.
  2021; 111 (4): 2167-2176
- **Fragility Curves and Methodology for Estimating Postearthquake Occupancy of Wood-Frame Single-Family Houses on a Regional Scale** *JOURNAL OF STRUCTURAL ENGINEERING*
  Heresi, P., Miranda, E.
  2021; 147 (5)
- **Robustness evaluation of fiv3 using near-fault pulse -like ground motions** *ENGINEERING STRUCTURES*
  Davalos, H., Miranda, E.
  2021; 230
- **A Ground Motion Prediction Model for Average Spectral Acceleration** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Davalos, H., Miranda, E.
  2021; 25 (2): 319–42
- **Intensity Measures for Regional Seismic Risk Assessment of Low-Rise Wood-Frame Residential Construction** *JOURNAL OF STRUCTURAL ENGINEERING*
  Heresi, P., Miranda, E.
  2021; 147 (1)
- **Damping Ratios of the First Mode for the Seismic Analysis of Buildings** *JOURNAL OF STRUCTURAL ENGINEERING*
  Cruz, C., Miranda, E.
  2021; 147 (1)
- **Overview of collapsed buildings in Mexico City after the 19 September 2017 (M(w)7.1) earthquake** *EARTHQUAKE SPECTRA*
  Galvis, F. A., Miranda, E., Heresi, P., Davalos, H., Ruiz-Garcia, J.
  2020; 36 (2_SUPPL): 83–109
- **A ground motion prediction equation for filtered incremental velocity, FIV3** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*
  Davalos, H., Heresi, P., Miranda, E.
  2020; 139
- **Observations of Rayleigh waves in Mexico City Valley during the 19 September 2017 Puebla-Morelos, Mexico earthquake** *EARTHQUAKE SPECTRA*
  Heresi, P., Ruiz-Garcia, J., Payan-Serrano, O., Miranda, E.
  2020; 36 (2_SUPPL): 62–82

- **Insights into damping ratios in buildings** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Cruz, C., Miranda, E.
  2020
- **The effect of spectral shape on damping modification factors** *EARTHQUAKE SPECTRA*
  Miranda, S., Miranda, E., Carlos de la Llera, J.
  2020; 36 (4): 2086–2111
- **Evaluation of FIV3 as an Intensity Measure for Collapse Estimation of Moment-Resisting Frame Buildings** *JOURNAL OF STRUCTURAL ENGINEERING*
  Davalos, H., Miranda, E.
  2020; 146 (10)
- **Strength-reduction factors for the design of light nonstructural elements in buildings** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Kazantzi, A. K., Miranda, E., Vamvatsikos, D.
  2020
- **Evaluation of benefits at a regional scale of new strategies to improve the seismic performance of low-rise residential construction** *BULLETIN OF EARTHQUAKE ENGINEERING*
  Heresi, P., Miranda, E.
  2020
- **Predicting earthquake-induced sliding displacements using effective incremental ground velocity** *EARTHQUAKE SPECTRA*
  Jampole, E., Miranda, E., Deierlein, G. G.
  2020; 36 (1): 378–99
- **Filtered incremental velocity: A novel approach in intensity measures for seismic collapse estimation** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Davalos, H., Miranda, E.
  2019; 48 (12): 1384–1405
- **Evaluation of bias on the probability of collapse from amplitude scaling using spectral-shape-matched records** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Davalos, H., Miranda, E.
  2019; 48 (8): 970–86
- **Enhanced Two-Stripe Analysis for Efficient Estimation of the Probability of Collapse** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Davalos, H., Miranda, E.
  2019
- **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
- **Evaluation of the Scaling Factor Bias Influence on the Probability of Collapse Using S-a(T-1) as the Intensity Measure** *EARTHQUAKE SPECTRA*
  Davalos, H., Miranda, E.
  2019; 35 (2): 679–702
- **Reliability of damping ratios inferred from the seismic response of buildings** *ENGINEERING STRUCTURES*
  Cruz, C., Miranda, E.
  2019; 184: 355–68
- **Evaluation of relative seismic performance between one- and two-story houses** *Journal of Earthquake Engineering*
  Heresi, P., Miranda, E.
  2019
- **Seismic Performance and Rehabilitation of the Port of Manta after the 2016 Ecuador Earthquake**
  Rojas, P., Miranda, E., Barros, J., Rosero, D., Marquez, W., Garcia, L., Jain, P., Stahlman, W. S.
  AMER SOC CIVIL ENGINEERS.2019: 603–15
- **Evaluation of seismic displacement demands from the September 19, 2017 Puebla-Morelos (Mw=7.1) earthquake in Mexico City** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*

Ruiz-Garcia, J., Miranda, E.
2018; 47 (13): 2726–32

- **Significance of directivity effects during the 2011 Lorca earthquake in Spain** *BULLETIN OF EARTHQUAKE ENGINEERING*
  Gordo-Monso, C., Miranda, E.
  2018; 16 (7): 2711–28
- **Assessment of Effects of Reductions of Lateral Stiffness along Height on Buildings Modeled as Elastic Cantilever Shear Beams** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Alonso-Rodriguez, A., Miranda, E.
  2018; 22 (4): 553–68
- **Uncertainty in intraevent spatial correlation of elastic pseudo-acceleration spectral ordinates** *Bulletin of Earthquake Engineering*
  Heresi, P., Miranda, E.
  2018
- **Ground motion prediction model for the peak inelastic displacement of single-degree-of-freedom bilinear systems** *Earthquake Spectra In-Press*
  Heresi, P., Dávalos, H., Miranda, E.
  2018; 34 (3)
- **Fragility functions for masonry infill walls with in-plane loading** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Chiozzi, A., Miranda, E.
  2017; 46 (15): 2831–50
- **Evaluation of soil-structure interaction effects on the damping ratios of buildings subjected to earthquakes** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*
  Cruz, C., Miranda, E.
  2017; 100: 183–95
- **Evaluation of the Rayleigh damping model for buildings** *ENGINEERING STRUCTURES*
  Cruz, C., Miranda, E.
  2017; 138: 324-336
- **Evaluation of Damping Ratios for the Seismic Analysis of Tall Buildings** *JOURNAL OF STRUCTURAL ENGINEERING*
  Cruz, C., Miranda, E.
  2017; 143 (1)
- **Dynamic behavior of buildings with non-uniform stiffness along their height assessed through coupled flexural and shear beams** *BULLETIN OF EARTHQUAKE ENGINEERING*
  Alonso-Rodriguez, A., Miranda, E.
  2016; 14 (12): 3463-3483
- **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.
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- **Spectral shape metrics and structural collapse potential** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Eads, L., Miranda, E., Lignos, D.
  2016; 45 (10): 1643-1659
- **Assessment of Numerical and Experimental Errors in Hybrid Simulation of Framed Structural Systems through Collapse** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Hashemi, M. J., Mosqueda, G., Lignos, D. G., Medina, R. A., Miranda, E.
  2016; 20 (6): 885-909
- **Assessment of building behavior under near-fault pulse-like ground motions through simplified models** *SOIL DYNAMICS AND EARTHQUAKE ENGINEERING*
  Alonso-Rodriguez, A., Miranda, E.
  2015; 79: 47-58
- **Average spectral acceleration as an intensity measure for collapse risk assessment** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*

Eads, L., Miranda, E., Lignos, D. G.
2015; 44 (12): 2057-2073

- **Estimation of base motion in instrumented steel buildings using output-only system identification** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Lignos, D. G., Miranda, E.
  2014; 43 (4): 547-563
- **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 behavior of a corrugated shear wall** *Thin-Walled Structures*
  Vigh, L. G., Liel, A. B., Deierlein, G. G., Miranda, E., Tipping, S.
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- **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
- **An efficient method for estimating the collapse risk of structures in seismic regions** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Eads, L., Miranda, E., Krawinkler, H., Lignos, D. G.
  2013; 42 (1): 25-41
- **Estimation of base motion in instrumented steel buildings using output#only system identification** *Earthquake Engineering & Structural Dynamics*
  Lignos, D. G., Miranda, E.
  2013
- **Fragility functions for pre-Northridge welded steel moment-resisting beam-to-column connections** *ENGINEERING STRUCTURES*
  Ramirez, C. M., Lignos, D. G., Miranda, E., Kolios, D.
  2012; 45: 574-584
- **Significance of residual drifts in building earthquake loss estimation** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Ramirez, C. M., Miranda, E.
  2012; 41 (11): 1477-1493
- **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
- **Performance of Port Facilities in Southern Chile during the 27 February 2010 Maule Earthquake** *EARTHQUAKE SPECTRA*
  Brunet, S., Carlos de la Llera, J., Jacobsen, A., Miranda, E., Meza, C.
  2012; 28: S553-S579
- **Performance of Nonstructural Components during the 27 February 2010 Chile Earthquake** *EARTHQUAKE SPECTRA*
  Miranda, E., Mosqueda, G., Retamales, R., Pekcan, G.
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- **Helmut Krawinkler, 1940-2012** *Earthquake Spectra*
  Deierlein, G., Miranda, E., Miranda, E., Kiremidjian, A.
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- **Deaggregation of Collapse Risk**
  Eads, L., Miranda, E., Krawinkler, H., Lignos, D. G.
  2012
- **Towards Creating Earthquake-Safe Communities: Seismic Retrofit of an Adobe School Building in Rural Peru Using Geomesh** *Proc. 15th World Conf. on Earthquake Engineering*

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- **Behavior of Nonstructural Components in Recent Earthquakes**
  Fierro, E. A., Miranda, E.
  2011
- **Fragility Assessment of Reduced Beam Section Moment Connections** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Lignos, D. G., Kolios, D., Miranda, E.
  2010; 136 (9): 1140-1150
- **Enhanced Building-Specific Seismic Performance Assessment** *Workshop on Advances in Performances-Based Earthquake Engineering*
  Miranda, E.
  SPRINGER.2010: 183–191
- **Probabilistic estimation of residual drift demands for seismic assessment of multi-story framed buildings** *ENGINEERING STRUCTURES*
  Ruiz-Garcia, J., Miranda, E.
  2010; 32 (1): 11-20
- **Estimation of Maximum Roof Displacement Demands in Regular Multistory Buildings** *JOURNAL OF ENGINEERING MECHANICS-ASCE*
  Lin, Y., Miranda, E.
  2010; 136 (1): 1-11
- **Evaluation of equivalent linear methods for estimating target displacements of existing structures** *ENGINEERING STRUCTURES*
  Lin, Y., Miranda, E.
  2009; 31 (12): 3080-3089
- **Three-Dimensional Simulation and Visualization of Crane Assisted Construction Erection Processes** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*
  Kang, S., Chi, H., Miranda, E.
  2009; 23 (6): 363-371
- **Seismic History Analysis of Asymmetric Buildings with Soil-Structure Interaction** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Lin, J., Tsai, K., Miranda, E.
  2009; 135 (2): 101-112
- **Numerical Methods to Simulate and Visualize Detailed Crane Activities** *COMPUTER-AIDED CIVIL AND INFRASTRUCTURE ENGINEERING*
  Kang, S., Miranda, E.
  2009; 24 (3): 169-185
- **Response Spectrum Method for Estimation of Peak Floor Acceleration Demand** *Improving the Seismic Performance of Existing Buildings and Other Structures*
  Taghavi, S., Miranda, E.
  2009
- **A Comprehensive Study of Floor Acceleration Demands in Multi-Story Buildings**
  Miranda, E., Taghavi, S.
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- **Estimation of Seismic Performance of Existing Steel Moment Resisting Frame Buildings by Using Continuous Models** *Improving the Seismic Performance of Existing Buildings and Other Structures*
  Miranda, E., Lignos, D.
  2009
- **Building-specific loss estimation methods & tools for simplified performance-based earthquake engineering** *Stanford University*
  Ramirez, C. M., Miranda, E.
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- **Noniterative Equivalent Linear Method for Evaluation of Existing Structures** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Lin, Y., Miranda, E.
  2008; 134 (11): 1685-1695
- **Computational methods for coordinating multiple construction cranes** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*
  Kang, S., Miranda, E.

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- **Kinematic soil-structure interaction effects on maximum inelastic displacement demands of SDOF systems** *BULLETIN OF EARTHQUAKE ENGINEERING*
  Lin, Y., Miranda, E.
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  Kang, S. C., Miranda, E.
  2008; 4 (22): 252-263

- **Probabilistic estimation of maximum inelastic displacement demands for performance-based design** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Ruiz-Garcia, J., Miranda, E.
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- **Parametric study of single-degree-of-freedom systems with energy dissipating devices built on soft soil sites** *ENGINEERING STRUCTURES*
  Jara, J. M., Miranda, E., AYALA, A. G.
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- **Simplified Analysis for Preliminary Design of Base-Isolated Structures** *New Horizons and Better Practices*
  Ramirez, C. M., Miranda, E.
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- **Evaluation of residual drift demands in regular multi-storey frames for performance-based seismic assessment** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Ruiz-Garcia, J., Miranda, E.
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- **Planning and visualization for automated robotic crane erection processes in construction** *1st Conference on the Future of the AEC Industry*
  Kang, S., Miranda, E.
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- **Generalized interstory drift spectrum** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Miranda, E., Akkar, S. D.
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- **Inelastic displacement ratios for evaluation of structures built on soft soil sites** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Ruiz-Garcia, J., Miranda, E.
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- **Residual displacement ratios for assessment of existing structures** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Ruiz-Garcia, J., Miranda, E.
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- **Three-dimensional analysis, real-time visualization, and automated post-earthquake damage assessment of buildings** *STRUCTURAL DESIGN OF TALL AND SPECIAL BUILDINGS*
  Naeim, F., LEE, H., Hagie, S., Bhatia, H., Alimoradi, A., Miranda, E.
  2006; 15 (1): 105-138

- **Use of probability-based measures for automated damage assessment** *STRUCTURAL DESIGN OF TALL AND SPECIAL BUILDINGS*
  Miranda, E.
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- **Evolutionary modal identification utilizing coupled shear-flexural response - Implication for multistory buildings - Part I: Theory** *STRUCTURAL DESIGN OF TALL AND SPECIAL BUILDINGS*
  Alimoradi, A., Miranda, E., Taghavi, S., Naeim, F.
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- **Modelling considerations in probabilistic performance-based seismic evaluation: case study of the I-880 viaduct** *International Workshop on Performance-Based Design- Concepts and Implementation*
  Kunnath, S. K., Larson, L., Miranda, E.

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- **Evolutionary System Identification of Coupled Shear-Flexural Response for Seismic Damage Detection** *Structures Congress 2006@ sStructural Engineering and Public Safety*
  Alimoradi, A., Naeim, F., Miranda, E.
  2006: 1-14
- **Dept. of Civil and Environmental Engineering Stanford University Terman Engineering Center, Rm 293 Stanford, CA 94301-4020** *Earthquake engineering: challenges and trends: honoring Luis Esteva*
  Miranda, E.
  2006: 451
- **Automated post-earthquake damage assessment of instrumented buildings** *Workshop on Advances in Earthquake Engineering for Urban Risk Reduction*
  Naeim, F., Hagie, S., Alimoradi, A., Miranda, E.
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- **Fragility assessment of slab-column connections in existing non-ductile reinforced concrete buildings** *JOURNAL OF EARTHQUAKE ENGINEERING*
  Aslani, H., Miranda, E.
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- **Evaluation of damping reduction factors for estimating elastic response of structures with high damping** *EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS*
  Lin, Y. Y., Miranda, E., Chang, K. C.
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- **Probability-based seismic response analysis** *ENGINEERING STRUCTURES*
  Aslani, H., Miranda, E.
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- **Estimation of floor acceleration demands in high-rise buildings during earthquakes** *STRUCTURAL DESIGN OF TALL AND SPECIAL BUILDINGS*
  Reinoso, E., Miranda, E.
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- **Approximate floor acceleration demands in multistory buildings. II: Applications** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Taghavi, S., Miranda, E.
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- **Approximate floor acceleration demands in multistory buildings. I: Formulation** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Miranda, E., Taghavi, S.
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- **Statistical evaluation of approximate methods for estimating maximum deformation demands on existing structures** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Akkar, S. D., Miranda, E.
  2005; 131 (1): 160-172
- **Performance-based assessment of existing structures accounting for residual displacements** *Blume Center Technical Rep*
  Ruiz#García, J., Miranda, E.
  2005
- **Toward Fully Automated Robotic Crane for Construction Erection**
  Kang, S. C., Miranda, E.
  2005
- **Seismic Evaluation of Existing Reinforced Concrete Buildings** *Earthquake Engineering: Essentials And Applications, Earthquake Engineering*
  Miranda, E.
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