

CURRICULUM VITAE

Dimitrios Lignos, Ph.D., P.E
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Google Scholar: Citations 2268, h-index 23, i10-index 38, **Scopus:** Citations 1098, h-index 19

Education

- 2009-2010 **Kyoto University/E-Defense, Japan**
Postdoctoral research fellow in Civil and Environmental Engineering. (CEE)
Research Topic: *“Effect of long duration earthquakes on high-rise steel buildings”*
Supervisor: Professor Masayoshi Nakashima
- 2008-2009 **Stanford University, CA, USA**
Postdoctoral research fellow in Civil and Environmental Engineering. (CEE)
Research Topic: *“Seismic retrofit of steel structures with innovative materials”*
Supervisor: Professor Sarah L. Billington
- 2004-2008 **Stanford University, CA, USA**
Doctor of Philosophy (**Ph.D.**) in Civil and Environmental Engineering. (CEE)
Ph.D. Dissertation Topic: *“Sidesway collapse of deteriorating structural systems under seismic excitations”*
Supervisor: Professor Helmut Krawinkler
- 2003-2004 **Stanford University, CA, USA**
Master of Science (**MSc**) in Civil and Environmental Engineering. (CEE)
Advisor: Professor Helmut Krawinkler **GPA: 4.03/4.00**
- 1998-2003 **National Technical University of Athens (NTUA), Greece**
Diploma, M. Eng. in CEE with specialization in Structural Engineering
Thesis Topic: *“Advanced nonlinear techniques to investigate the effects of mass and stiffness irregularities on seismic demands of steel moment frames”*
Supervisor: Professor Charis J. Gantes **GPA: 9.11/10.00**

Research Interests

Collapse Risk Assessment of Structural Systems under Extreme Loading
Performance-Based Earthquake Engineering
High Performance Steel Materials for Multi-Hazard Mitigation
Advanced Nonlinear Finite Element Modeling
Computational-Mechanics Based Simulation
Experimental Methods in Civil Engineering
Retrofit Techniques for Structural Systems with Innovative Materials
Protective Systems
Infrastructure Management for Seismic Resilience

Appointments

- 2016 – present **Associate Professor**, Swiss Federal Institute of Technology, in Lausanne (EPFL), Switzerland
- 2016 – present **Director**, Resilient Steel Structures Laboratory (RESSLab), ENAC–EPFL–IIC, EPFL, Switzerland
- 2016 – present **Adjunct Professor**, McGill University, Montreal, QC, H3A 2K6, Canada
- 2015 – 2016 **Associate Professor**, McGill University, Montreal, QC, H3A 2K6, Canada
- 2015 - 2016 **William Dawson Scholar for Infrastructure Resilience**, McGill University, Montreal, QC, H3A 2K6, Canada
- 2010 – 2015 **Assistant Professor**, McGill University, Montreal, QC, H3A 2K6, Canada
- 2009 – 2010 **Research Engineer**, Stanford University, Stanford, CA, in Collaboration with Professor E. Miranda (PI) as part of the NSF NEESR-CR (award Number 0936633) project “Collapse Simulation of Multi-Story Buildings through Hybrid Testing”
- 2009 – 2010 **JSPS Postdoctoral Researcher**, Kyoto University, Disaster Prevention Research Institute (DPRI), Division of Earthquake Resistant Structures, Japan
Supervision: Professor Masayoshi Nakashima (Kyoto University, E-Defense)
- 2008 – 2009 **Postdoctoral Researcher**, Stanford University, Stanford, CA, USA
Supervision: Professor S. Billington (Stanford, CA)
- 2008 – 2009 **Visiting Researcher**, University of California, Berkeley, CA, USA
Design, plan and execution of state-of-the art hybrid simulation testing of retrofitted steel structures with ductile fiber reinforced concrete, as part of Network for Earthquake Engineering Simulation (NEES), in collaboration with Professors S. Billington, (Stanford, CA), Professor J. K. Wight (University of Michigan)
- 2006 – 2007 **Visiting Researcher**, State University at Buffalo, Buffalo, New York (SUNY), USA
Planned, designed and conducted two shaking table collapse tests of a scale model of a 4-story steel structure at the NEES facility at University at Buffalo. The objective was to validate analytically and experimentally the collapse prediction of frame structures.
Supervision: Professor A. Whittaker; Professor H. Krawinkler
- 2004 – 2008 **Graduate Research Assistant**, Stanford University, Stanford, CA, USA
Supervision: Professor H. Krawinkler (Stanford, CA)

Honors/Awards

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- 2018 **“First Place Award”** (both Phases A and B) of the comprehensive category of the [NIST-ATC Blind Prediction Contest 2018 of the Cyclic Response of Deep Wide-Flange steel Columns for Special Moment Frame Applications](#). Awarded during the 2018 NASCC Steel Conference, April 11-13, 2018, Baltimore, Maryland, USA.
- 2015 – 2020 **“William Dawson Scholar Award”** for infrastructure resilience. The William Dawson award recognizes a scholar developing into an outstanding and original researcher of world-class caliber who is poised to become a leader in his field, similar to that of a CRC Tier 2.
- 2014 **“Christophe Pierre Award for Research Excellence – Early Career”** for recognizing excellence and potential for future preeminence in research by academic staff in the Faculty of Engineering, McGill University.
- 2014 **“ASCE Outstanding Reviewer Award 2013”** in recognition of outstanding service as a reviewer for the American Society of Civil Engineers (ASCE) Journal of Structural Engineering.
- 2013 **“ASCE State-of-the-Art of Civil Engineering Award 2013”** for the paper “Deterioration Modeling of Steel Components in Support of Collapse Prediction of Steel Moment Frames

- Under Earthquake Loading,” Journal of Structural Engineering, November 2011, for its contribution toward rationalizing collapse estimation for steel moment frames under seismic loading.
- 2012 **“ASCE Outstanding Reviewer Award 2012”** in recognition of outstanding service as a reviewer for the American Society of Civil Engineers (ASCE) Journal of Structural Engineering.
- 2012 **First Place Award Winner** of the E-Defense International Blind Analysis Contest 2012 in the Category of “Base Isolated Configuration”. Awarded during the 9th International Conference on Urban Earthquake Engineering (8CUEE), Tokyo, Japan, March 2012.
- 2011 – 2012 **“Engineering Class of 1944” Outstanding Teaching Award** among the faculty of Engineering, *McGill University*.
- 2009 – 2010 **Third Place Award Winner** of the E-Defense Blind Analysis Contest 2009 in the Category of 2-Dimensional Analysis, “Steel Damper”. Awarded during the 7th International Conference on Urban Earthquake Engineering (7CUEE), Tokyo, Japan, March 2010.
- 2009 – 2010 **Japan Society for the Promotion of Science (JSPS) honorary fellowship** to conduct research in Japan in the Disaster Prevention Research Institute (DPRI) in Kyoto University and Hyogo Earthquake Engineering Research Center (**E-Defense**) focusing on seismic capacity of high-rise steel buildings, and energy dissipation devices.
- 2008 – 2009 National Science Foundation (NSF) **Award** for Experimental Research in Earthquake Engineering to participate in a full scale 6-story earthquake test and damage inspection in world’s largest shaking table in Japan (E-Defense, National research institute for earth science and disaster prevent) for developing a performance-based seismic design philosophy for mid-rise wood construction
- 2005 - 2006 **John A. Blume Fellow for Doctor of Philosophy**, Stanford, CA (**First Recipient**)
- 2005 - 2006 **Medal and Award** for exemplary research in the area of earthquake engineering (awarded during 3rd conference on Mechanics and Solids, *Massachusetts Institute of Technology*)
- 2005 - 2006 **“John Argyris” Medal and Award** for best Diploma Thesis in the area of Earthquake Engineering from Greek Association of Computational Mechanics (awarded during 5th GRACM conference on computational mechanics, Cyprus)
- 2003 - 2004 **Stanford University Fellow** for Master of Science, Stanford, CA
- 2003 - 2004 **Fulbright Scholar** to pursue graduate studies in United States
- 1998 - 2003 **5 “Distinguished Performance” Awards** from Technical Chamber of Greece (Ranked among the top 3 students of NTUA for 5 consequent years)
- 1999 - 2003 **5 Scholarships** from the Greek Institution of National Scholarships (IKY) (top 1% in a class of 250 students in NTUA for 5 consequent years)
- 1999 - 2000 **6 “Distinguished Performance” Awards** from NTUA for exceptional performance in Mathematics

Awarded Research & Industry Grants

- 2017 – present **Swiss National Science Foundation (SNSF), Award CHF 150,000**: “Controller for Geographically Distributed Hybrid Testing & Simulation Across Scales”, D.G. Lignos (**principal**).
- 2016 – present **Swiss National Science Foundation (SNSF), Award CHF 437,836**: “Advanced Simulation Platform for Collapse Risk Assessment of Steel Frame Buildings”, D.G. Lignos (**principal**).
- 2016 – 2017 **ENAC Exploratory Grant (ENAC), Award CHF 25,000**: “Development of High Performance Steel Materials to Mitigate Natural Hazards”, D.G. Lignos (**principal**).
- 2016 – present **Natural Sciences and Engineering Research Council of Canada (NSERC) – Collaborative**

- Research and Development (CRD), Award \$320,000:** “Improved Design Procedures for Slotted Hidden gap HSS Brace Connections & I-Shape Flange Connections & the Use of Electroslag Welding for the Fabrication of Heavy Steel Structures”, C.A. Rogers (principal) **D.G. Lignos** (co-PI) and R. Tremblay (co-PI).
- 2014 – 2017 **FQRNT Projet de Recherche en Equipe, Award \$229,500:** “Stratégies de réhabilitation sismique des structures de bâtiments en acier pour la protection du public et la réduction des impacts économiques au Québec”, R. Tremblay (principal), **D.G. Lignos**, C.A. Rogers, L. Tirca.
- 2013 – 2017 **Collaborative Industry Grant (Nippon Steel & Sumitomo Metal Corporation, Japan), Award \$185,400:** “Collapse Assessment of Steel Moment Resisting Frames Designed With High-Yield Ratio Steel Columns”, **D.G. Lignos** (principal).
- 2013 – 2017 **International Collaborative Grant (Japan, U.S.A, Canada), Award \$50,000:** “General Collaborative Research on Assessment of Collapse Safety Margin in High-Rise Steel Framed Structures under Extreme Earthquake Loading Beyond Current Code Specifications”, G. Mosqueda (principal), **D.G. Lignos**, M. Sivaselvan, M. Nakashima.
- 2012 – 2016 **ADF Group Inc & DPHV Structural Consultants - Industry Grant, Award \$150,000:** Design of Shear Plate Connections and Welding of Heavy Plates & Jumbo Shapes. C.A. Rogers (principal) and **D.G. Lignos** (co-PI).
- 2013 – 2018 **Fonds de recherche du Québec - Nature et technologies, Regroupements stratégiques, Award \$2,394,720:** “Centre d'études interuniversitaire sur les structures sous charges extrêmes (CEISCE)”, P. Paultre (principal) & 17 others.
- 2015 – 2016 **FQRNT University of Sherbrooke, Award \$20,000:** “Scholarship Program for Multi-hazard Mitigation”, **D.G. Lignos** (principal).
- 2015 – 2016 **Natural Sciences and Engineering Research Council of Canada (NSERC) - Research Tools and Instruments (RTI), Award \$114,818:** “Laser Aided Technology for Three Dimensional Finite Element Modeling and Post-Disaster Evaluation of Frame Buildings”, **D.G. Lignos** (principal), G. McClure, C.A. Rogers, D. Mitchell (equipment).
- 2013 – 2015 **Natural Sciences and Engineering Research Council of Canada (NSERC) - Research Tools and Instruments (RTI), Award \$121,503:** “A High Capacity Dynamic Actuator for Large-Scale Experimental Testing Towards Seismic Resilience of Infrastructure Facilities”, **D.G. Lignos** (principal), G. McClure, C.A. Rogers, O-S. Kwon, O. Mercan (equipment).
- 2013 – 2015 **Steel Structures Education Foundation (SSEF), Award \$16,000:** “Development of R_y , R_t Factors and Probable Brace Resistance Axial Loads for the Seismic Design of Bracing Connections and Other Members”, **D.G. Lignos** (principal).
- 2013 – 2016 **Institute of Sustainability in Engineering and Design (ISEAD), Award \$16,500:** “Decision Making Tool for Life-Cyclic Assessment for Critical Infrastructure Subjected to Natural Hazards”, **D.G. Lignos** (principal).
- 2012 – 2015 **FQRNT Projet de Recherche en Equipe, Award \$178,500:** “Fast Post-Earthquake Functionality Assessment of Critical Infrastructure in Canada”, **D.G. Lignos** (principal), G. McClure, I. Psaromiligkos.
- 2012 – 2016 **Canadian Foundation for Innovation (CFI), Award \$200,000:** “A Laboratory for Seismic Risk Mitigation of Critical Infrastructure”, **D.G. Lignos** (principal) (equipment).
- 2012 – 2016 **Natural Sciences and Engineering Research Council of Canada (NSERC) - Discovery Grant, Award \$120,000:** “Performance-Based Assessment Techniques for Seismic Evaluation and Retrofit of Steel Structures Under Design and Extreme Earthquakes”, **D.G. Lignos** (principal).
- 2012 - 2015 **Natural Sciences and Engineering Research Council of Canada (NSERC) – Collaborative Research and Development (CRD) , Award \$225,667:** “Design of Shear Plate Connections

- and Welding of Heavy Plates & Jumbo Sections”, C.A. Rogers (principal) and **D.G. Lignos** (co-PI).
- 2012 – 2014 **Institute of Sustainability in Engineering and Design (ISEAD), Award \$8,000**: “Guidelines for Sustainable Design of Civil Engineering Systems”, **D.G. Lignos (principal)**.
- 2012 – 2013 **Steel Structures Education Foundation (SSEF), Award \$17,000**: “Dynamic Stability of Steel Columns Subjected to Seismic Loading”, **D.G. Lignos (principal)**, R. Tremblay, C. P. Lamarche.
- 2012 – 2014 **FQRNT Établissement de nouveaux chercheurs, Award \$40,000**: “Earthquake Performance Evaluation of Conventional and Base-Isolated Nuclear Power Plants in Canada”, **D.G. Lignos (principal)**.
- 2012 – 2013 **Fonds de recherche du Québec - Nature et technologies, Regroupements stratégiques, Award \$200,000**: “Centre d'études interuniversitaire sur les structures sous charges extrêmes (CEISCE)”, P. Paultre (principal) & 17 others.
- 2011 – 2012 **NSF NEESR-CR, 1142058, Award \$45,000**: “Learning from Earthquakes - Performance and Resilience Data from the March 2011 Tohoku, Japan Earthquake on Bridges, Buildings, and Government and Community Response”, J. Berger (principal), J. Wallace, J. Ricles, **D.G. Lignos**, J. Moehle, H. Shiohara, T. Okazaki, M. Midorikawa, *through* George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) Division of Civil, Mechanical, and Manufacturing Innovation Directorate for Engineering Suite 545 National Science Foundation.
- 2009 – 2012 **NSF NEESR-CR Proposal 0936633, Award \$1.2Million**: “Collapse Simulation of Multi-Story Buildings through Hybrid Testing”, E. Miranda (principal), **D.G. Lignos**, H. Krawinkler, R. Medina, G. Mosqueda, B. Fell, *through* George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) Division of Civil, Mechanical, and Manufacturing Innovation Directorate for Engineering Suite 545 National Science Foundation.

Participation in International Committees of Experts

- 2017-present Project Team Member of the European Committee Standardization for M/515 Phase 2 tasks of Eurocode 8 (seismic Provisions for Steel Structures) for the Development of the 2nd Generation of EN Eurocodes.
- 2017-present Member of the European Committee for Standardization CEN/TC250/SC8 Working Group 6 on Performance Assessment of New and Existing Steel Structures (Swiss Delegate).
- 2016-present Member of the Canadian Standards Association CSA S16 Steel Structures for Buildings for the revision of the seismic provisions for steel moment-resisting frames.
- 2016-present Member of the Canadian Standards Association CSA S16 Steel Structures for Buildings for Advanced Analysis of Steel Structures.
- 2016-present Member of the European Committee for Standardization CEN/TC250/SC8 Working Group 2 on Steel and Composite Structures (Swiss Delegate).
- 2015-present Applied Technology Council, NEHRP Consultants Joint Venture, Member, Technical Committee, ATC-106-Task Order 1, “*Seismic behavior and design of deep, slender wide-flange structural steel beam-column members: Phase 3 Experimental Evaluation*”, activities of this committee are funded by the National Institute of Standards and Technology (NIST), Washington, DC, USA.
- 2013-present Member of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers Technical Activities Division, Disaster Resilience of Structures Committee (2013-2019).
- 2015-2018 Applied Technology Council, NEHRP Consultants Joint Venture, Member, Technical Committee, ATC-114-Task Order 38, “*Development of Accurate Models and Efficient Simulation Capabilities for Collapse Analysis to Support Implementation of Performance Based Seismic Engineering*”, activities of this committee are funded by the National Institute of Standards and Technology (NIST), Washington, DC, USA.

- 2013-2015 Applied Technology Council, NEHRP Consultants Joint Venture, Member, Technical Committee, ATC-106-Task Order 32, “*Seismic behavior and design of deep, slender wide-flange structural steel beam-column members: Phase 2 Experimental Evaluation*”, activities of this committee are funded by the National Institute of Standards and Technology (NIST), Washington, DC, USA.
- 2012-2018 Member Centre d'étude interuniversitaire des structures sous charges extrêmes (CEISCE).
- 2011-2013 Applied Technology Council, NEHRP Consultants Joint Venture, Member, Technical Committee, ATC-90-Task Order 17, “*development of a comprehensive long-term plan to research the seismic behavior and design of deep, slender wide-flange structural steel beam-column members*”, activities of this committee are funded by the National Institute of Standards and Technology (NIST), Washington, DC, USA.
- 2011-2012 Member of the Research Team, which was dispatched by the Earthquake Engineering Research Institute (EERI) (Only representative from Canada) to investigate in collaboration with researchers from the Architectural Institute of Japan (AIJ) the recent Great East Japan earthquake and tsunami and its effects on steel and high performance (base isolated) structures as part of a comprehensive earthquake hazards reduction program underway in the United States (April 2011-present).
- 2011-2012 Member, Working Group, NEES TIPS/E-Defense Full Scale Seismic Isolation Test Program and Workshop, invited participant together with 20 other earthquake simulation experts around the world to develop an action plan for research and outreach for modeling and analyzing base-isolated structures for high seismic performance and high seismic resiliency in Japan and United States.
- 2011-2017 Member of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers Technical Activities Division, Methods of Analysis Committee (2011-2017).
- 2011-2017 Member of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers Technical Activities Division, Seismic Effects Committee (2011-2017).
- 2009-2010 Applied Technology Council, NEHRP Consultants Joint Venture, Member, Working Group, ATC-76-Task Order 6, “*Improved Nonlinear Static Seismic Analysis Procedures-Multiple-Degree-of-Freedom Modeling, Report No: NIST GCR 10-917-9*”, funded by the National Earthquake Hazards Reduction Program (NEHRP), (2009-2010).
- 2008-2010 Applied Technology Council, NEHRP Consultants Joint Venture, Member, Working Group, ATC-76-Task Order 1, “*Evaluation of the FEMA P-695 Methodology for Quantification of Building Seismic Performance Factors, Report No: NIST GCR 10-917-8*”, funded by the National Earthquake Hazards Reduction Program (NEHRP), (2008-2010).

Teaching

EPFL, Department of Architecture, Civil and Environmental Engineering

CIVIL 714 – “Performance-Based Earthquake Engineering” (Instructor), Fall 2018

Civil Engineering: Advanced topics in probabilistic seismic hazard analysis, structural behaviour and simulation with emphasis on nonlinear modeling including collapse prediction, nonlinear modeling criteria, damage estimation, seismic risk assessment, vulnerability curves, earthquake-induced loss estimation and life-cycle analysis.

CIVIL 435 – “Advanced Steel Design” (Instructor), Winter 2016, 2017, 2018

Civil Engineering: Advanced topics in structural steel seismic design. Topics include: bolted and welded beam-to-column connections; beam-columns; steel braces; eccentrically braced frame links; capacity design of conventional steel frame buildings; innovative lateral load resisting systems for seismic loading.

CIVE 369 – “Structural Stability” (Instructor), Winter 2017, 2018

Civil Engineering: Advanced topics in structural stability. Static and dynamic loads; elastic and inelastic buckling of columns; beam-columns; lateral-torsional buckling; nonlinear geometric effects; structural stability in the design codes; case studies include real-world applications of stability theory.

McGill University, Department of Civil Engineering and Applied Mechanics

CIVE 462 – “Design of Steel Structures” (Instructor), Fall 2013

Civil Engineering: Design of structural steel elements: plate girders, members under combined loadings, eccentrically loaded connections, structural systems. Design of structural steel systems: composite floor systems, braced frames, moment resisting frames.

CIVE 320 – “Numerical Methods” (Instructor), Fall 2010-2015

Civil Engineering: Numerical procedures applicable to civil engineering problems: integration, differentiation, solution of initial-value problems, solving linear and non-linear systems of equations, boundary-value problems for ordinary-differential equations, and for partial-differential equations.

CIVE 612 – “Earthquake-Resistant Design” (Instructor), Fall 2015

Civil Engineering: Static and dynamic analyses, design codes, effects of local ground conditions, ductility demands on structural components. Inelastic behaviour of beams, columns, joints, shear walls and bracing under cyclic loading of steel concrete and masonry structures. Design applications.

CIVE 603 – “Structural Dynamics” (Instructor), Winter 2015

Civil Engineering: Dynamic loads on structures; equations of motion of linear single- and multiple-degree-of-freedom systems and of continuous systems; free and forced vibrations; damping in structures; modal superposition and time-history analysis; earthquake effects; provisions of the National Building Code of Canada for seismic analysis.

CIVE 616 – “Nonlinear Structural Analysis for Buildings” (Instructor), Fall 2011-2014

Civil Engineering: Advanced simulation techniques for nonlinear analysis of structures under earthquake loading; modeling of P-Delta effects, material nonlinearity, component deterioration and fracture, diaphragm action, performance-based earthquake design, pushover analysis, nonlinear time history analysis, simplified modeling and limitations.

CIVE 602 – “Finite Element Analysis” (Instructor), Winter 2012-2014

Civil Engineering: Development of displacement based simple and high order, one, two and three dimensional elements for linear elastic stress analysis. Variational and other methods for element formulation. Plate bending and shell elements. Finite element programming. Use of package programs in static analysis of structures.

CIVE 418 – “Design Project” (Co-Instructor), Fall 2010-2014, Winter 2011-2014

Civil Engineering: Capstone design project.

Publications (Names of Post-Graduate, Graduate and/or Undergraduate Students Supervised are Underlined)

Book Chapters

- B.1. **Lignos, D.G., Putman, C.**, Krawinkler, H. (2013). “Seismic Assessment of Steel Moment Frames Using Simplified Nonlinear Models”, Chapter 5 in “Computational Methods in Earthquake Engineering”, Papadrakakis, M., Fragiadakis, M., Plevris, V., (Ed.), Vol. 2, Published by Springer, NY.
- B.2. Zareian, F., **Lignos, D.G.**, Krawinkler, H. (2011). “Seismic Design Modification Factors for Steel SMRFs for Uniform Collapse Safety”, Book Chapter in “Protection of the Built Environment Against Earthquakes”, Published by Springer, NY.
- B.3. **Lignos, D.G.**, Krawinkler, H., Whittaker, A.S. (2010). “Experimental and Analytical Collapse Assessment of Steel Moment-Resisting Frames”, Book Chapter in “Computational Methods in

Applied Sciences”, *European Community on Computational Methods in Applied Sciences*, Vol. 3, Published by Springer, NY.

- B.4. Krawinkler, H., **Lignos, D.G.** (2009). “How to Predict the Probability of Collapse of Non-Ductile Building Structures”, Book Chapter in “Seismic Risk Assessment and Retrofitting”, *Geotechnical, Geological, and Earthquake Engineering*, Vol. 10, Published by Springer, NY.
- B.5. Krawinkler, H., Zareian, F., **Lignos, D.G.**, Ibarra L.F. (2009). “Significance of Modeling Deterioration in Structural Components for Predicting the Collapse Potential of Structures under Earthquake Excitations”, Book Chapter in “Performance-Based Earthquake Engineering”, Published by Springer, NY.

Refereed Journal Publications (published or in press)

- J.1. Elkady, A., Ghimire, S., **Lignos, D.G.** (2018). “Fragility Curves for Wide-Flange Steel Columns and Implications on Building-Specific Earthquake-Induced Loss Assessment”, *Earthquake Spectra* doi: 10.193/122017EQS260M (in press).
- J.2. Elkady, A., **Lignos, D.G.** (2018). “Improved Seismic Design and Nonlinear Modeling Recommendations for Wide-Flange Steel Columns”, ASCE, *Journal of Structural Engineering*, Vol. 144 (9), pp. 04018162-1, doi: 10.1061/(ASCE)ST.1943-541X.0002166.
- J.3. Akcelyan, S., **Lignos, D.G.**, Hikino, T. (2018). “Adaptive Numerical Method Algorithms for Nonlinear Viscous and Bilinear Oil Damper Models Subjected to Dynamic Loading”, *Soil Dynamics and Earthquake Engineering*, Vol. 113, pp. 488-502, doi: 10.1016/j.soildyn.2018.06.021.
- J.4. Kolwankar, S., Kanvinde A., Kenawy, M., **Lignos, D.G.**, Kunnath, S. (2018). “A Fiber-Based Nonlocal Model for Simulating Local Buckling Induced Softening in Steel Beam-Columns”, ASCE, *Journal of Structural Engineering*, Vol. 144 (10), pp. 04018192-1, doi: 10.1061/(ASCE)ST.1943-541X.0002189.
- J.5. Motallebi, M., **Lignos, D.G.**, Rogers, C.A. (2018). “Behaviour of Stiffened Extended Shear Tab Connections under Gravity Induced Shear Force”, *Journal of Constructional Steel Research*, Vol. 148, pp. 336-350, doi: 10.1016/j.jcsr.2018.06.011.
- J.6. Ibrahim, O., **Lignos, D.G.**, Rogers, C.A. (2018). “Recommendations for Improved Welding Procedures for Thick Steel Plates Through Thermo-Mechanical Finite Element Analysis”, *International Journal of Steel Structures*, pp 1-20 doi: <https://doi.org/10.1007/s13296-018-0110-2> (in press).
- J.7. Elkady, A., **Lignos, D.G.** (2018). “Full-Scale Testing of Deep Wide-Flange Steel Columns under Multi-Axis Cyclic Loading: Loading Sequence, Boundary Effects and Out-of-Plane Force Demands”, ASCE, *Journal of Structural Engineering*, Vol. 144 (2), pp. 04017189-1, doi: 10.1061/(ASCE)ST.1943-541X.0001937.
- J.8. Grigoriou, V., Nussbaumer, A., **Lignos, D.G.** (2018). “Fatigue Strength Upgrading of Cover Plate Ends in Steel Girders by Wended Extensions”, ASCE, *Journal of Bridge Engineering*, Vol. 23 (7), pp. 04018037, doi: 10.1061/(ASCE)BE.1943-5592.0001228.
- J.9. Nikolaidou, V., Latreille, P., **Lignos, D.G.**, Rogers, C.A. (2018). “Structural Performance Characterization of Wood-Sheathed/Cold-Formed Steel Framed Floor and Roof Diaphragm Structures”, ASCE, *Journal of Structural Engineering*, Vol. 144 (2), pp. 04017215-1, doi: 10.1061/(ASCE)ST.1943-541X.0001962.
- J.10. Hwang, S-H., **Lignos, D.G.** (2018). “Nonmodel-based Framework for Rapid Seismic Risk and Loss Assessment of Instrumented Steel Buildings”, *Journal of Engineering Structures*, Vol. 156 (1), pp. 417-432, doi: 10.1016/j.engstruct.2017.11.045.
- J.11. Hwang, S-H., **Lignos, D.G.** (2017). “Earthquake-Induced Loss Assessment of Steel Frame Buildings with Special Moment Frames Designed in Highly Seismic Regions”, *Journal of Earthquake Engineering and Structural Dynamics*, EESD, Vol. 46 (13), pp. 2141-2162, doi: 10.1002/eqe.2739.
- J.12. Hwang, S-H., **Lignos, D.G.** (2017). “Assessment of Structural Damage Detection Methods for Steel Structures using Full-Scale Experimental Data and Nonlinear Analysis”, *Bulletin of Earthquake Engineering*, Vol. 13 (4), pp. 1097-1118, doi: 10.1007/s10518-014-9640-y.

- J.13. Hwang, S-H., Lignos, D.G. (2017). “Effect of Modeling Assumptions on the Earthquake-Induced Losses and Collapse Risk of Steel Frame Buildings with Special Concentrically Braced Frames”, ASCE, *Journal of Structural Engineering*, Vol. 143 (9), pp. 04017116-1-16, doi 10.1061/(ASCE)ST.1943-541X.0001851.
- J.14. Ibrahim, O., Lignos, D.G., Rogers, C.A. (2017). “A Probabilistic Approach for Assessing Discontinuities in Structural Steel Based on Charpy-V-Notch Tests”, *Journal of Engineering Structures*, Vol. 147 (15), pp. 1-11, doi: <https://doi.org/10.1016/j.engstruct.2017.05.016>.
- J.15. Eads, L., Miranda, E., Lignos, D.G. (2016). “Spectral Shape Metrics and Structural Collapse Potential”, *Journal of Earthquake Engineering and Structural Dynamics*, EESD, Vol. 45 (10), pp. 1643-1659, doi: 10.1002/eqe.2739.
- J.16. Ramos, D.C., Mosqueda, G., Lignos, D.G. (2016). “Seismic Performance of a Steel Moment Frame Subassembly Tested from the Onset of Damage Through Collapse”, *Journal of Earthquake Engineering and Structural Dynamics*, EESD, Vol. 45(10), pp. 1563-1580, doi: 10.1002/eqe.2743.
- J.17. Hashemi, J., Mosqueda, G., Lignos, D.G., Medina, R., Miranda, E. (2016). “Effects of Numerical and Experimental Errors in Hybrid Simulation of Complex Structural Systems through Collapse”, *Journal of Earthquake Engineering*, Vol. 20(6), pp. 889-909, doi: <http://dx.doi.org/10.1080/13632469.2015.1110066>.
- J.18. Akcelyan, S., Lignos, D.G., Hikino, T., Nakashima, M. (2016). “Evaluation of Simplified and State-of-the-Art Analysis Procedures of Steel Buildings Equipped with Supplemental Damping Devices Based on E-Defense Full-Scale Shake Table Tests, ASCE *Journal of Structural Engineering*, Vol. 142(6), pp. 1-16, doi: 10.1061/(ASCE)ST.1943-541X.0001474, 04016024.
- J.19. Ibrahim, O., Lignos, D.G., Rogers, C.A. (2016). “Proposed Modeling Approach of Welding Procedures for Heavy Steel Plates”, *Engineering Structures*, Vol. 127, pp. 18-30, doi: <http://dx.doi.org/10.1016/j.engstruct.2016.08.022>.
- J.20. Elkady, A., Lignos, D.G. (2015). “Analytical Investigation of the Cyclic Behavior and Plastic Hinge Formation in Deep Wide-Flange Steel Beam-Columns”, *Bulletin of Earthquake Engineering*, Vol. 13(4), pp. 1097-1118, doi: 10.1007/s10518-014-9640-y.
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- C.59. **Lignos, D.G.**, Ricles, J.M., Love, J., Okazaki, T., Midorikawa, M. (2012). "Seismic Effects of the 2011 Tohoku, Japan Earthquake on Steel Buildings," *Proceedings 9th, International Conference on Urban Earthquake Engineering (9CUEE) & 4th Asia Conference on Earthquake Engineering*, Tokyo, Japan March 6th - 8th, 2012.
- C.60. Gray, M.G., Christopoulos, C., Packer, J.A., **Lignos, D.G.** (2012). "Development, Validation and Modeling of the New Cast Steel Yielding Brace System," *Proceedings ASCE Structures Congress*, March 29th-31st, Chicago, IL, USA, SEI institute.
- C.61. Eads, L., Miranda, E., Krawinkler, H., **Lignos, D.G.** (2012). "Deaggregation of Collapse Risk," *Proceedings ASCE Structures Congress*, March 29th-31st, Chicago, IL, USA, SEI institute.
- C.62. **Lignos, D.G.**, Luna-Moreno, M. D., Billington, S.L. (2012). "Hybrid Simulation of a 2-Story steel MRF Retrofitted with HPFRC Infill Panels," *Proceedings of 7th International Conference on Behavior of Steel Structures in Seismic Areas, STESSA 2012*, Santiago, Chile, paper No 0055.
- C.63. **Lignos, D.G.**, Okazaki, T., Hikino, T., Kajiwara, K., Nakashima, M. (2011). "Numerical Modeling of Post-Buckling Behavior and Fracture of Steel Concentrically Braced Frames," *Proceedings 7th National Conference of Steel Structures*, Volos, Greece, September 27th – 29th, 2011, paper No. 23.
- C.64. **Lignos, D.G.**, Hikino, T., Matsuoka, Y., Nakashima, M. (2011). "Collapse Mitigation Strategies for Steel Moment Resisting Frames Through E-Defense Full Scale Shaking Table Collapse Tests," *Proceedings 7th National Conference of Steel Structures*, Volos, Greece, September 27th – 29th, 2011, paper No. 24.
- C.65. **Lignos, D.G.**, Luna-Moreno, M. D., Billington, S.L. (2011). "Large Scale Hybrid Simulation Tests of Existing Steel Frame Structures Retrofitted With Infill Panels", *Proceedings 7th National Conference of Steel Structures*, Volos, Greece, September 27th – 29th, 2011, paper No. 25.
- C.66. **Lignos, D.G.**, Putman, C., Krawinkler, H. (2011). "Seismic Assessment of Steel Moment Frames Using Simplified Nonlinear Models," *Proceedings 3rd International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN11*, May 26th-28th, Corfu, Greece.
- C.67. **Lignos, D.G.**, Luna-Moreno, M. D., Billington, S.L. (2011). "Seismic Retrofit of Existing Steel Moment Resisting Frames with Innovative Materials: Large Scale Hybrid Simulation Tests,"

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- C.68. **Lignos, D.G., Eads, L.,** Krawinkler, H. (2011). “Effect of Composite Action on Collapse Capacity of Steel Moment frames Under Cyclic Loading,” *Proceedings Eurosteel*, Budapest, Hungary, August 31st – September 2nd, 2011.
- C.69. Okazaki, T., **Lignos, D.G.,** Hikino, T., Kajiwara, K. (2011). “Dynamic Response of a Steel Centrally Braced Frame,” *Proceedings ASCE Structures Congress*, Las Vegas, April 14-16th 2011, USA, SEI institute.
- C.70. Krawinkler, H., **Lignos, D.G., Putman, C.** (2011). “Prediction of Nonlinear Response – Pushover Analysis versus Simplified Nonlinear Response History Analysis”, *Proceedings ASCE Structures Congress*, Las Vegas, April 14-16th 2011, USA, SEI institute.
- C.71. **Lignos, D.G., Putman, C.,** Zareian, F., Krawinkler, H. (2011). “Seismic Evaluation of Steel Moment Frames and Shear Walls Using Nonlinear Static Analysis Procedures”, *Proceedings ASCE Structures Congress*, Las Vegas, April 14-16th 2011, USA, SEI institute.
- C.72. Billington, S. L., **Lignos, D.G.,** Hanson, J. V., Luna-Moreno, M. D. (2011). “Response of High Performance Fiber Reinforced Concrete Infill Panels Retrofitting Steel Moment-Resisting Frames,” *Proceedings 8th, International Conference on Urban Earthquake Engineering (8CUEE)*, Tokyo, Japan March 7th - 8th, 2011.
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- C.75. Zareian, D. G., **Lignos, D.G.,** Krawinkler, H. (2010). “Seismic Design Modification Factors for Steel Moment resisting Frames,” *Proceedings, International Workshop on Protection of Build Environment against Earthquakes, University of Ljubljana, August 27 – 28, 2010.*
- C.76. Nakashima, M., Ji, X., **Lignos, D.G.** (2010). “Roles of Large-Scale Shaking Table Testing for Verification of Advanced Technologies on Structural Control and Monitoring”, *Proceedings 5th World Conference on Structural Control and Monitoring*, Tokyo, July 12-14th, Japan.
- C.77. **Lignos, D.G.,** Chung, Y.L., Nagae, T., Nakashima, M. (2010). “Numerical Modeling of High-Rise Steel Structures Subjected to Long Period Earthquakes”, *Proceedings Architectural Institute of Japan*, AIJ, Annual Meeting, Toyama, September 9th – 11th, Japan, 2010.
- C.78. **Lignos, D.G.,** Krawinkler, H. (2010). “A Steel Database for Component Deterioration of Tubular Hollow Square Steel Columns under Varying Axial Load for Collapse Assessment of Steel Structures under Earthquakes”, *Proceedings 7th International Conference on Urban Earthquake Engineering (7CUEE)*, Tokyo, March 3rd - 5th, Japan, 2010.
- C.79. **Lignos, D.G.,** Billington, S.L. (2010). “Hybrid Testing of a Retrofitted Steel Moment Resisting Frame with Infill Panels”, *Proceedings 9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders*, July 25-29, Toronto, Canada, 2010.
- C.80. **Noh, H.Y., Lignos, D.G.,** Nair, K., Kiremidjian, A., (2010). “Development of Fragility Functions for Steel Moment Frames Using Wavelet Based Damage Sensitive Features From Structural Health Monitoring”, *Proceedings 9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders*, July 25-29, Toronto, Canada, 2010.
- C.81. **Lignos, D.G.,** Krawinkler, H., Whittaker, A. (2009). “Contributions to Collapse Prediction of Steel Moment Frames Through Recent Earthquake Simulator Collapse Tests”, *Proceedings 3rd International Conference on Advances in Experimental Structural Engineering*, October 15-16, San Francisco, CA, 2009.
- C.82. **Lignos, D.G.,** Hunt, C. M., Krebs, A., Billington, S.L. (2009). “Comparison of Retrofitting Techniques for Existing Steel Moment Resisting Frames”, *Proceedings ATC&SEI Conference on*

- Improving the Seismic Performance of Existing Buildings and Other Structures*, December 9-11, San Francisco, CA, 2009.
- C.83. **Lignos, D.G.**, Krawinkler, H., Zareian, F. (2009). “Modeling of Component Deterioration for Collapse Prediction of Steel Frames”, *Proceedings of 6th International Conference on Behavior of Steel Structures in Seismic Areas, STESSA 2009*, Philadelphia, Pennsylvania, USA.
- C.84. Noh, H.Y., **Lignos, D.G.**, Nair, K., Kiremidjian, A. (2009). “Application of Wavelet Coefficient Energies of Stationary and Non-stationary Response Signals for Structural Damage Diagnosis”, *Proceedings 7th International Workshop on Structural Health Monitoring*, Stanford, CA, September 9-11, 2009.
- C.85. **Lignos, D.G.**, Krawinkler, H., Whittaker, A. (2008). “Shaking Table Collapse Tests of a 4 – Story Steel Moment Frame”, *Proceedings 14th World Conference in Earthquake Engineering* Beijing, China, October 12-17, 2008.
- C.86. **Lignos, D.G.**, Zareian, F., Krawinkler, H. (2008). “Reliability of a 4-Story Steel Moment Resisting Frame against Collapse Due to Seismic Excitations”, *Proceedings ASCE Structures Congress*, Vancouver, BC, Canada, SEI institute, 2008.
- C.87. **Lignos, D.G.**, Krawinkler, H., Whittaker, S. A., (2008). “Collapse Tests of Two Scale Models of a Steel Frame Structure”, *Proceedings 6th NEES (Network for Earthquake Engineering Simulation) Annual Meeting*, Portland, Oregon, June 18th – 20th, 2008.
- C.88. **Lignos, D.G.**, Krawinkler, H., Whittaker, S. A., (2008). “Analytical and Experimental Prediction of Sidesway Collapse of Steel Frames”, *Proceedings 6th National Conference of Steel Structures*, Ioannina, Greece, October 2nd – 4th, 2008.
- C.89. **Lignos, D.G.**, Krawinkler, H. (2007). “A Database in Support of Modeling of Component Deterioration for Collapse Prediction of Steel Frame Structures”, *Proceedings ASCE Structures Congress*, Long Beach CA, SEI institute, 2007.
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- C.91. **Lignos, D.G.**, Gantes, C.J. (2005). “Modal Pushover Analysis as a Tool for Practical Design of Structures”, *Proceedings 3rd conference on Mechanics and Solids*, MIT, paper 008.
- C.92. **Lignos, D.G.**, Stergiou, E.C., Gantes, C.J. (2005). “Structural Reliability of Steel Structures Based on Interstory Drift and Direct Loss Demands”, *Proceedings 5th GRACM conference on computational mechanics*, Cyprus.
- C.93. **Lignos, D.G.**, Gantes, C. J. (2005). “Design Considerations for the Effects of Near Fault Ground Motions on Steel Structures”, *Proceedings 5th national conference on steel structures*, Xanthi, Greece.
- C.94. **Lignos, D.G.**, Gantes, C.J. (2005). “Seismic Demands for Steel-Braced Frames with Stiffness Irregularities Based on Modal Pushover Analysis”, *Proceedings 4th European workshop on seismic behavior of irregular and complex structures*, Thessalonica, Greece.
- C.95. Elkady, A., **Lignos, D.G.** (2012). “Dynamic Stability of Deep Slender Steel Columns as Part of Special MRFs Designed in Seismic Regions: Finite Element Modeling”, *Proceedings First International Conference on Performance-Based and Life-Cycle Structural Engineering (PLSE)*, Hong Kong (Invited paper, Collapse Minisymposium).
- C.96. **Lignos, D.G.** (2012). “Modeling and Experimental Validation of a Full Scale 5-Story Steel Building Equipped With Tripple Friction Pendulum Bearings: E-Defense Blind Analysis Competition,” *Proceedings 9th, International Conference on Urban Earthquake Engineering (9CUEE) & 4th Asia Conference on Earthquake Engineering*, Tokyo, Japan March 6th - 8th, 2012.
- C.97. **Lignos, D.G.**, Zareian, F., Krawinkler H. (2010). “A Steel Component Database for Deterioration Modeling of Steel Beams with RBS under Cyclic Loading,” *Proceedings ASCE Structures Congress, Orlando Florida, May 12-15, 2010* (Invited paper in session: Limit state evaluation of steel framed structures using the ATC 63 methodology).
- C.98. Zareian, F., **Lignos, D.G.**, Krawinkler, H. (2010). “Evaluation of Seismic Collapse Performance of Steel Special Moment Resisting Frames Using the ATC-63 Methodology”, *Proceedings ASCE*

- Structures Congress, Orlando Florida, May 12-15, 2010* (Invited paper in session: Limit state evaluation of steel framed structures using the ATC 63 methodology)
- C.99. Miranda, E., **Lignos, D.G.** (2009). “Estimation of Seismic Performance of Existing Steel Moment Resisting Frame Buildings by Using Continuous Models,” *Proceedings ATC&SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures*, December 9-11, San Francisco, CA, 2009. (Invited paper in session: Improving the seismic performance of existing structures through monitoring).
- C.100. Krawinkler, H. Zareian, F., **Lignos, D.G.**, Ibarra, L.F. (2009). “Prediction of Collapse of Structures Under Earthquake Excitations”, *Proceedings COMPDYN09* Rhodes, Greece, June 22-24, 2009 (Invited paper and keynote lecture).
- C.101. **Lignos, D.G.**, Krawinkler, H., and Whittaker, A. S., (2009). “Collapse Assessment of a 4-story Steel Moment-resisting Frame”, *Proceedings COMPDYN09*, Rhodes, Greece, June 22-24, 2009 (Invited paper in Progress and Challenges in Collapse Prediction, mini-symposium).
- C.102. Zareian, F., **Lignos, D.G.**, Krawinkler, H. (2009). “Quantification of Modeling Uncertainties for Collapse Assessment of Structural Systems under Seismic Excitations,” *Proceedings COMPDYN09* Rhodes, Greece, June 22-24, 2009 (Invited paper in Progress and Challenges in Collapse Prediction, mini-symposium).
- C.103. Zareian, F., Krawinkler, H., **Lignos, D.G.**, Ibarra, L. O. (2008). “Predicting Collapse of Frame and Wall Structures”, *Significant Accomplishments and Future Directions in Earthquake Engineering - In Memory of Professor Takuji Kobori. Proceedings 14th World Conference in Earthquake Engineering* Beijing, China. (Invited paper).
- C.104. Krawinkler, H., **Lignos, D.G.** (2007). “How to Predict and Reduce the Probability of Collapse of Non-Ductile Building Structures”, *Proceedings International Workshop On Measures for the Prevention of Total Collapse of Existing Low-Rise Structures*, November 19-20, Istanbul Technical University, Istanbul, Turkey (Invited paper).

Contributions to Practical Applications of Knowledge

- P.1. NIST (2017). “Recommended modeling parameters and acceptance criteria for nonlinear analysis in support of seismic evaluation, retrofit and design”, U.S. Department of Commerce, National Institute of Standards and Technology ([NIST GCR 17-917-45](#)).
- P.2. NIST (2011). “Research plan for the study of seismic behavior and design of deep, slender wide flange structural steel beam-column members”, U.S. Department of Commerce, National Institute of Standards and Technology ([NIST GCR 11-917-13](#)).
- P.3. NIST (2010). “Applicability of nonlinear multiple-degree-of-freedom modeling for design”, U.S. Department of Commerce, National Institute of Standards and Technology ([NIST GCR 10-917-9](#)).
- P.4. NIST (2010). “Evaluation of the FEMA P-695 methodology for quantification of building seismic performance factors”, U.S. Department of Commerce, National Institute of Standards and Technology ([NIST GCR 10-917-8](#)).

Technical Reports in Press

- TR.1. Motallebi, M., Rogers, C.A., **Lignos, D.G.** (2018). “Behaviour of Extended Shear Tab Connections under Combined Axial and Shear Forces”, *PhD Dissertation*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.2. Nikolaidou, V., Rogers, C.A., **Lignos, D.G.** (2018). “Advancements in the Seismic Design of Cold-Formed Steel Structures through the Investigation of Diaphragm Behaviour and the Influence of Non-Structural Components”, *PhD Dissertation*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.3. Mousteraki, A., **Lignos, D.G.** (2017). “Retrofit of Critical Facilities with the Use of Seismic Isolation including Pounding Phenomena”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.4. Hwang, S.H., **Lignos, D.G.** (2017). “Framework for Earthquake-Induced Loss Assessment of Steel Frame Buildings – From Building-Specific to City-Scale Approaches”, *PhD Dissertation*,

- Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.5. Akcelyan, S., **Lignos, D.G.** (2017). “Seismic Retrofit of Existing Steel Tall Buildings with Supplemental Damping Devices”, *PhD Dissertation*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.6. Cravero, J., **Lignos, D.G.** (2017). “Experimental Evaluation of Steel Wide-Flange Columns in Moment-Resisting Frames Under High Axial Load and Lateral Drift Demands”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.7. Hartloper, A., **Lignos, D.G.** (2016). “Updates to the ASCE-41-13 Nonlinear Modelling Provisions for Performance-Based Seismic Assessment of New and Existing Steel Moment-Resisting Frames”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.8. Elkady, A., **Lignos, D.G.** (2016). “Collapse Risk Assessment of Steel Moment Resisting Frames Designed with Deep Columns”, *PhD Dissertation*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.9. Ibrahim, O., **Lignos, D.G.**, Rogers, C.A. (2016). “Welding Procedure Specifications and Discontinuities Acceptance Criteria for Butt Welded Heavy Steel Sections”, *PhD Dissertation*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.10. Goldstein, N., **Lignos, D.G.**, Rogers, C.A. (2015). “Testing of Extended Shear Tab and Coped Beam-to-Girder Connections Subjected to Shear Loading”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.11. Walker, S., **Lignos, D.G.** (2015). “Seismic Retrofit of a 1960s, Nine-Storey, Steel-Frame Hospital Building Using Triple Friction Pendulum Seismic Isolation”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.12. Eads, L., Miranda, E., **Lignos, D.G.** (2014). “Seismic Collapse Risk Assessment of Buildings: Effects of Intensity Measure Selection and Computational Approach”, *Report No. 184*, The John A. Blume Earthquake Engineering Center, Stanford, CA.
- TR.13. Suzuki, Y., **Lignos, D.G.** (2014). “Collapse Behaviour of Steel Columns Subjected to Combined Axial Load and Lateral Deformations – Large Scale Experimental Studies and Analytical Modeling Development”, *Report No. 2*, Nippon Steel & Sumitomo Metal Corporation, Japan, 392 pages.
- TR.14. Ramos, M.D., Mosqueda, G., **Lignos, D.G.** (2014). “Hybrid Simulation of the Seismic Response of a Steel Moment Frame Building Structure Through Collapse”, *Report MCEER-14-0003*, Multidisciplinary Center for Earthquake Research (MCEER), University at Buffalo, State University of New York, 376 pages.
- TR.15. Hertz, J., **Lignos, D.G.**, Rogers, C.A. (2014). “Testing of Extended Shear Tab Connections Subjected to Shear”, *M.Eng., Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.16. Nikolaidou, V., Rogers, C., **Lignos, D.G.** (2013). “Finite Element Modeling and Evaluation of Welding Procedures in High Strength (450 MPa: 65ksi) W-Shape Column Assemblies”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.17. Al-Bardaweel, S., **Lignos, D.G.** (2013). “Indicators for Sustainable Design of Civil Engineering Systems: Towards Earthquake Resilient Steel Frame Buildings Through Loss Assessment”, *M.Eng., Project*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.18. Suzuki, Y., **Lignos, D.G.** (2013). “Collapse Assessment of Steel Moment Resisting Frames Designed with High Yield Ratio Steel Columns”, *Internal Report No. 1*, Nippon Steel & Sumitomo Metal Corporation, Japan, 169 pages.
- TR.19. Al-Shawwa, N., **Lignos, D.G.** (2013). “Rapid Estimation of Earthquake Damage on Instrumented Steel Frame Buildings Using Simplified Tools: Towards “City-Scale” Building Simulation”, *M.Eng.*

- Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.20. **Karamanci, E., Lignos, D.G.** (2013). “Collapse Assessment and Performance-Based Evaluation Techniques for Concentrically Braced Frames Designed in Seismic Regions”, *M.Eng. Thesis*, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada.
- TR.21. **Lignos, D.G., Krawinkler, H.** (2012). “Sidesway Collapse of Deteriorating Structural Systems under Seismic Excitations,” *Report No. TB 177*, The John A. Blume Earthquake Engineering Center, Stanford, CA.
- TR.22. **Lignos, D.G.** (2010). “Interactive Interface for Incremental Dynamic Analysis: Theory and Example Applications Manual, Version 1.1.5”, Department of Civil and Environmental Engineering, Stanford University, CA, March, 2010.
- TR.23. **Krebs, A.D., Lignos, D.G., Billington, S.L.** (2009). “Comparison of Alternative Seismic Retrofit Techniques for Steel Moment Resisting Frames”, Department of Civil and Environmental Engineering, Stanford University, CA, March, 2009.
- TR.24. **Lignos, D.G.** (2008). “Sidesway Collapse of Deteriorating Structural Systems under Seismic Excitations,” *Ph.D. Dissertation*, Department of Civil Engineering, Stanford University, Stanford, CA.
- TR.25. Hubult, E., **Lignos, D.G., Krawinkler, H.** (2008). “Assessing Potential of Adobe Walls Reinforced with Polymer Mesh,” *Undergraduate Honors Thesis*, Department of Civil Engineering, Stanford University, Stanford CA, June, 2008.
- TR.26. **Hunt, C.M., Lignos, D.G., Billington, S.L.** (2008). “Evaluation of Energy Absorbent Infill Panels for Seismic Retrofit through OpenSees Simulation”, Department of Civil Engineering, Stanford University, Stanford, CA, June, 2008.
- TR.27. **Lignos, D.G., Krawinkler, H.** (2007). “Contributions to Collapse Prediction for Frame Structures”, Kajima-CUREE Joint Research Program, Phase VI: Investigation of Factors Leading to Progressive Collapse of Structures. Category 2 Analysis of Structural Component Failure.
- TR.28. Krawinkler, H., Zareian, F., Haas, K., **Lignos, D.G.** (2006). “Issues Affecting the R-Factor Determination of Autoclaved Aerated Concrete (AAC) Buildings,” Part of the Applied Technology Council (ATC-63) project on Quantification of Building System Performance and Response Parameters.
- TR.29. **Lignos, D.G., Gantes, C.J.** (2003). “Advanced nonlinear techniques to investigate the effects of mass and stiffness irregularities on seismic demands of steel moment frames”, *Diploma Thesis*, Laboratory of Metal Structures, National Technical University of Athens (NTUA).

Invited and Plenary Talks

- T.1. **Lignos, D.G.** (2018). “Steel Columns under Multi-Axis Cyclic Loading: Experiments, “Digital Twins” and Reparability Curves”, Invited Lecture, Università Degli Studi Di Napoli, Federico II (University of Naples), Naples, Italy, June 13th, 2018.
- T.2. **Lignos, D.G.** (2018). “Life-Cycle Costs of Steel Frame Buildings Subjected to Earthquake Loading”, Invited Lecture, Università Degli Studi Di Napoli, Federico II (University of Naples), Naples, Italy, June 13th, 2018.
- T.3. **Lignos, D.G.** (2018). “Cas Spécifique et des Exigences Qualité dans l’Eurocode 8”, Invited Lecture, Steel Academy, Centre Suisse de la Construction Métallique (SZS), Lausanne, Switzerland, April 3rd, 2018.
- T.4. **Lignos, D.G.** (2018). “Collapse Risk and Loss Assessment of Steel Moment-Resisting Frames Designed with Deep Wide-Flange Steel Columns”, Invited Lecture, Monash University, Australia, February 12th, 2018.
- T.5. **Lignos, D.G.** (2018). “Framework for Assessing the Earthquake-induced Collapse Risk of Steel Structures”, Invited Lecture, Sapienza, University of Rome, Department of Structural Engineering and Geotechnics, Rome, Italy, February 6th, 2018.

- T.6. **Lignos, D.G.** (2018). “Data-Driven Infrastructure Risk Management”, Keynote Lecture, Data Science and Mobility Conference, Lausanne, Switzerland, January 31st, 2018.
- T.7. **Lignos, D.G.** (2017). “Steel Column Behavior under Multi-Axis Cyclic Loading: Experiments, Models and Implications in Performance-Based Seismic Design”, Keynote Lecture, National Conference on Steel Structures, Steel Structures Research Society (SSRS), Larissa, Greece, October 5-7, 2017.
- T.8. **Lignos, D.G.** (2017). “Earthquake-induced Collapse Risk and loss Assessment of Steel Frame Buildings with Moment-Resisting Frames Designed with Deep Wide-Flange Steel Columns”, Invited Lecture, University of Colorado, Boulder, Department of Civil, Architectural and Environmental Engineering, Structural Engineering and Structural Mechanics Seminar Series Boulder, Colorado, USA, April 5th 2017.
- T.9. **Lignos, D.G.** (2017). “Experimental Evaluation of Steel Columns under Multi-Axis Cyclic Loading”, Invited Lecture, Futtsu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, April 3rd 2017.
- T.10. **Lignos, D.G.** (2016). “Recent Advancements in Seismic Behavior and Nonlinear Modeling of Steel Columns for Performance-Based Earthquake Engineering”, Keynote Lecture, 7th Kwang-Hua Forum on Innovations and Implementations in Earthquake Engineering Research, Shanghai, China, December 9th – 11th, 2016.
- T.11. **Lignos, D.G.** (2016). “Use of Seismic Isolation for Improving the Seismic Resilience of Existing Steel Structures”, Keynote Lecture, 1st International Workshop on Resilience, Torino, Italy, September 19th, 2016.
- T.12. **Lignos, D.G.** (2016). “Simulation Platform and Use of Innovative Technologies to Improve the Seismic Resilience of Steel Frame Buildings in Seismic Areas”, Invited Lecture, EMPA, Swiss Federal Laboratories for Material Science and Technology, September 12th, 2016.
- T.13. **Lignos, D.G.** (2016). “Earthquake-Induced Collapse Risk and Loss Assessment of Steel Frame Buildings Designed in Highly Seismic Regions”, Invited Seminar, Tsinghua University, Beijing China, August 22nd, 2016.
- T.14. **Lignos, D.G.** (2016). “Loading Histories for Cyclic Tests in Support of Collapse Assessment of Steel Columns”, Keynote Lecture, 2nd Huixian International Forum on Earthquake Engineering for Young Researchers, Beijing China, August 19th – 21st, 2016.
- T.15. **Lignos, D.G.** (2016). “Dynamic Stability of Deep Wide-Flange Steel Columns: Full-Scale Experiments, Finite Element Modelling and Nonlinear Modelling Recommendations for Performance-Based Earthquake Engineering”, Invited Seminar, Institute of Engineering Mechanics (IEM), China Earthquake Administration, Beijing China, August 19th, 2016.
- T.16. **Lignos, D.G.** (2016). “Effect of Composite Action on the Hysteretic Behavior of Fully-Restrained Beam-to-Column Connections under Cyclic Loading”, Keynote Lecture, Connections VIII Conference, Boston, Massachusetts, USA, May 24th-26th, 2016.
- T.17. **Lignos, D.G.** (2015). “Use of Innovative Technologies to Mitigate the Collapse Risk of Steel Frame Buildings in Seismic Areas”, Concordia University, Invited Presentation, Montreal Canada, December 2nd 2015.
- T.18. **Lignos, D.G.** (2015). “Experimental and Analytical Evaluation of the Seismic Performance of Deep Columns in Steel Moment Resisting Frames”, Ecole Polytechnique Montreal, Workshop on the Seismic Response of I-Shaped Columns in Steel Moment Frames and Braced Frames, Invited Presentation, November 2nd 2015.
- T.19. **Lignos, D.G.** (2015). “Collapse Risk Assessment of Steel Frame Buildings in Highly Seismic Regions”, Invited Lecture, Futtsu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, June 29th 2015.
- T.20. **Lignos, D.G.** (2015). “Collapse Risk Assessment of Steel Frame Buildings Designed with Deep Wide-Flange Steel Columns in Highly Seismic Regions”, ETH Zurich, Switzerland, April 2nd 2015.
- T.21. **Lignos, D.G.** (2015). “High Performance Steel Structures for Collapse Risk Mitigation”, Invited Presentation, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, April 1st 2015.

- T.22. **Lignos, D.G.** (2015). “Collapse Risk Assessment of Steel Special Moment Frames Designed with Deep Slender Wide-Flange Steel Columns”, Invited Presentation, University of Michigan Ann Arbor, MI, February 26th 2015.
- T.23. **Lignos, D.G.** (2014). “High Performance Steel Structures for Improved Seismic Resilience”, Invited Presentation, University of California, Berkeley, Berkeley, CA, USA, February 19th 2014.
- T.24. **Lignos, D.G.** (2014). “Steel Frame Buildings for Improved Seismic Resilience – Collapse Risk and Earthquake Induced Economic Losses”, 21th Annual Civil Engineering Conference, Montreal, Canada, May 12th, 2014 (Keynote Lecture).
- T.25. **Lignos, D.G.** (2013). “Current Research on the Collapse Assessment of Steel Frame Buildings Subjected to Extreme Earthquakes Beyond the Design Level”, Invited Presentation, NEES/E-Defense 10th Planning Meeting, Kyoto, Japan, December 11-13th 2013.
- T.26. **Lignos, D.G.** (2013). “Current Research on the Design, Evaluation and Fabrication of Steel Structures Subjected to Seismic and Other Loads”, Invited Presentation, Canadian Institute of Steel Construction, 5th Annual Quebec, Steel Workshop, Laval, Canada, October 3rd 2013.
- T.27. **Lignos, D.G.** (2013). “Need for Collapse Quantification of Steel Frame Structures Subjected to Extreme Earthquake Loading: Seismic Design Implications and Future Research Directions”, Invited Lecture, Futtisu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, February 28th 2013.
- T.28. **Lignos, D.G.** (2012). “Dynamic Stability of Steel Structures Designed with Deep Members in Seismic Regions”, ADF Group, Inc, Montreal, Canada, October 12th, 2012.
- T.29. **Lignos, D.G.** (2012). “Collapse Assessment of Steel Braced Frames in Seismic Regions”, Quake Summit 2012, Boston, MA, NEES (*Network for Earthquake Engineering Simulation*) Meeting, July 9-12, 2012.
- T.30. **Lignos, D.G.** (2012). “Collapse Assessment of Steel Structures Under Extreme Earthquake Loading: Recent Advancements and Future Directions”, Institute of Industrial Science, University of Tokyo, Tokyo, Japan, March 8th 2012.
- T.31. **Lignos, D.G.** (2011). “Lessons learnt From The 2011 Great Tohoku Earthquake in Japan”, Stanford University, Earthquake Engineering Research Institute (EERI) Student Chapter, Stanford, California, July 28th 2011.
- T.32. **Lignos, D. G.** (2011). “Performance of Steel Structures During The Great Tohoku Earthquake 2011 in Japan”, ADF Group, Inc., Montreal, Canada, June 10th, 2011.
- T.33. **Lignos, D.G.** (2011). “Recent Advancements in Collapse Assessment of Steel Structures Based on Small and Full Scale Shaking Table Collapse Tests”, University of Toronto, Toronto, Canada, May 10th, 2011 (Invited Lecture).
- T.34. **Lignos, D.G.** (2011). “Recent Advancements in Collapse Assessment of Steel Structures Based on Small and Full Scale Shaking Table Collapse Tests”, 18th Annual Civil Engineering Conference, Montreal, Canada, March 24th, 2011 (Keynote Lecture).
- T.35. **Lignos, D.G.** (2011). “Collapse Assessment of Steel Structures Under Extreme Earthquake Loading: Recent Advancements and Future Directions”, Earthquake Engineering Research Institute (EERI) and Multidisciplinary Center for Earthquake Engineering Research (MCEER) lecture series, State University of New York at Buffalo (SUNY), Department of Civil & Environmental Engineering, February 23rd, 2011 (Invited Lecture).
- T.36. **Lignos, D.G.** (2009). “State of Knowledge on Collapse Assessment of Structural Systems”, McGill University, Canada, Department of Civil & Environmental Engineering, May, 29th, 2009 (Invited Talk).
- T.37. **Lignos, D.G.** (2008). “State of Knowledge on Collapse Assessment of Frame Structures”, University of Cyprus, Civil and Environmental Engineering, Seminar Series: “The Engineer in Society”, December 17th 2008 (Invited Talk).
- T.38. **Lignos, D.G.** (2008). “Sidesway Collapse of Deteriorating Structural Systems under Seismic Excitations”, National Technical University of Athens (NTUA), Laboratory of Metal Structures, October 8th 2008 (Invited Talk).

- T.39. **Lignos, D.G.**, Krawinkler H., (2008). “Collapse Tests of Two Scale Models of a Steel Frame Structure”, 6th NEES (*Network for Earthquake Engineering Simulation*) Annual Meeting, Portland, Oregon, June 18th – 20th, 2008 (Plenary Talk).
- T.40. **Lignos, D.G.** (2008). “Analytical and Experimental Prediction of Sidesway Collapse of Deteriorating Structural Systems”, Structural Engineers Association of Southern California (SEAONC), San Francisco, CA May 19th 2008 (Invited Talk).
- T.41. **Lignos, D.G.** (2008). “Contributions to Collapse Prediction of Frame Structures: Accomplishments, Future Implications and Directions”, Ecole Polytechnique Fédérale de Lausanne (EPFL) , Research Seminar, Lausanne, Switzerland, April 10th 2008 (Invited Talk).
- T.42. **Lignos, D.G.** (2008). “Contributions to Collapse Prediction of Frame Structures: Accomplishments, Future Implications and Directions”, University of Massachusetts at Amherst, Research Seminar, March 5th 2008 (Invited Talk).
- T.43. **Lignos, D.G.** (2007). “Sidesway Collapse of Deteriorating Structural Systems under Seismic Excitations,” University at Buffalo NY, MCEER, NEES Research Seminar, July 20th 2007 (Invited Talk).
- T.44. **Lignos, D.G.**, Krawinkler H., (2006). “A Database for Modeling Deterioration in Beams and Columns Subjected to Cyclic Bending Moments,” 4th NEES (*Network for Earthquake Engineering Simulation*) Annual Meeting, Washington DC, June 18th-20th, 2006 (Plenary Talk).

Student Research Supervision

Post-Doctoral Scientists

- 2015-2016 A. Imanpour, McGill University, Montreal, Canada (**Primary Supervisor**)
Current Position: Tenure-track Assistant Professor, University of Alberta, Canada
- 2016-2017 V. Grigoriou, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Current Position: Principal Engineer, Tsinias and Associates, Athens, Greece.
- 2017-present A.A. Sousa, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Current Position: Post-Doctoral Scientist, EPFL, Lausanne, Switzerland.
- 2016-present A. Elkady, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Current Position: Post-Doctoral Scientist, EPFL, Lausanne, Switzerland.

Ph.D. Degree

- 2018-present M. Paronesso, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Ph.D. Student, EPFL, Switzerland.
- 2018-present A. Skiadopoulos, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Ph.D. Student, EPFL, Switzerland.
- 2017-present A. Hartloper, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Ph.D. Student, EPFL, Switzerland.
- 2017-present H. El Jisr, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Ph.D. Student, EPFL, Switzerland.
- 2016-present H. Inamasu, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Ph.D. Student, EPFL, Switzerland.
- 2011-2016 A. Elkady, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Post-Doctoral Scientist, EPFL, Lausanne, Switzerland.
- 2011-2015 O. Ibrahim, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
Position: tenure-track Assistant Professor, Alexandria University, Egypt.
- 2010-2013 L. Eads, Stanford University, Stanford, CA (**Co-Supervised** with Prof. E. Miranda)
Position: Research Engineer, Risk Management Solutions (RMS), California, USA.
- 2012-2018 Y. Suzuki, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Senior Researcher, Nippon Steel Sumitomo Metal Corporation, Japan.
- 2012-2017 S. Akcelyan, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Course Lecturer, McGill University, Montreal, Canada.

- 2013-2017 S.H. Hwang, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Research Professor, Department of Architectural Engineering, Dankook University, South Korea.
- 2013-2018 M. Nasrabadi, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
Position: Ph.D. Student, McGill University, Montreal, Canada.
- 2014-2018 V. Nikolaidou, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
Position: Ph.D. Student, McGill University, Montreal, Canada.

M.S. Degree

- 2016-2017 M. Paronesso, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Research Scientist, EPFL, Switzerland.
- 2016-2017 M. Benagli, Swiss Federal Institute of Technology, Lausanne, CH (**Primary Supervisor**)
Position: Structural Engineer, Bollinger & Mabillard Consulting Engineers Inc., Monthey Switzerland.
- 2014-2017 A. Mousteraki, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Structural Engineer, Crete, Greece
- 2014-2016 J. Cravero, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: PhD Student, École des Ponts, Paris, France
- 2013-2015 S. Walker, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Skidmore, Owings & Merrill (SOM), San Francisco, California, USA.
- 2013-2015 N. Goldstein, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
- 2011-2013 N. Al-Shawwa, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Research Engineer, ARUP Consulting Engineers, London, United Kingdom.
- 2011-2013 E. Karamanci, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Structural Engineer, DPHV Structural Consultants, Montreal, Canada.
- 2012-2013 S.Al. Bardaweel, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Structural Engineer, The Lane Construction Corporation, Waco, Texas, United States.
- 2012-2013 V. Nikolaidou, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
Position: Ph.D. Student, McGill University, Montreal, Canada.
- 2012-2014 J. Hertz, McGill University, Montreal, Canada (**Co-Supervised** with Prof. C.A. Rogers)
Position: Structural Engineer, Cleland Jardine Engineering Limited, Kanata, Ontario, Canada.
- 2014-2016 A. Hartloper, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Ph.D. Student, Swiss Federal Institute of Technology in Lausanne (EPFL), CH.
- 2009-2010 C. Putman, Stanford University, CA (**Co-Supervised** with Prof. H. Krawinkler)
Position: Design Engineer, P.E, Degenkolb Engineers, Oakland, CA, USA.
- 2008-2009 A.D. Krebs, Stanford University, CA (**Co-Supervised** with Prof. S.L. Billington)
Position: Structural Engineer, CA, USA.
- 2008-2009 C.M. Hunt, Stanford University, CA (**Co-Supervised** with Prof. S.L. Billington)
Position: Senior Structural Engineer, ARUP, NYC, USA.
- 2008-2009 R. Weiner, Stanford University, CA (**Co-Supervised** with Prof. H. Krawinkler)
Position: Structural Engineer, Weidlinger Associates Inc. USA.
- 2006-2007 G. Soriano, Stanford University, CA (**Co-Supervised** with Prof. H. Krawinkler)
Position: Structural Engineer, Walter P. Moore, CA, USA.
- 2006-2007 Y. Ahuja, Stanford University, CA (**Co-Supervised** with Prof. H. Krawinkler)
Position: Structural Engineer, United Arab Emirates.
- 2005-2006 S. Patton, Stanford University, CA (**Co-Supervised** with Prof. H. Krawinkler)
Position: Structural Engineer, Nabih Youssef & Associates Inc., USA.

Bachelor's Degree

- 2014 S. Cerri, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: ARUP, Boston, Massachusetts.

- 2014 S. Lawless, McGill University, Montreal, Canada (**co-Supervisor**, SURE¹-NSERC² Program)
Position: Senior Undergraduate Student, McGill University, Montreal Canada.
- 2014 M. Moradi, McGill University, Montreal, Canada (**co-Supervisor**, SURE-NSERC Program)
Position: Structural Engineer, Montreal, Canada.
- 2014 D. Pizzuto, McGill University, Montreal, Canada (**co-Supervisor**, SURE-NSERC Program)
Position: Senior Undergraduate Student, McGill University, Montreal Canada.
- 2013 M. DeSouza, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: Junior Structural Engineer, SNC Lavalin, Montreal, Quebec, Canada.
- 2013 F. Pakpour, McGill University, Montreal, Canada (**co-Supervisor**, SURE-NSERC Program)
Position: Graduate Student (University of Toronto, Ontario, Canada).
- 2013 H. Moir, McGill University, Montreal, Canada (**co-Supervisor**, SURE Program)
Position: Junior Structural Engineer, Atkins & Van Groll Inc., Consulting Engineering, Toronto, Ontario, Canada
- 2013 M. Moradi, McGill University, Montreal, Canada (**co-Supervisor**, SURE Program)
Position: Senior Undergraduate Student, McGill University, Montreal, Canada.
- 2012-2013 M. Markhvida, McGill University, Montreal, Canada (**Primary Supervisor** SURE-NSERC)
Position: Ph.D. Student at Stanford University, CA Struct. Eng., and Geomechanics Program.
- 2011-2012 H. Dugum, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: 2nd year M.Sc., student, Massachusetts Institute of Technology (MIT).
- 2012 A. Bahou, McGill University, Montreal, Canada (**Primary Supervisor**)
Position: M.Eng. Student in Architecture.
- 2012 N. Goldstein, McGill University, Montreal, Canada (**Primary Supervisor**)
- 2011 G. Martin, McGill University, Montreal, Canada (**Primary Supervisor**, SURE Program)
Position: AMEC Geotechnical Consultants, Montreal, Canada.
- 2011 S. Al. Bardaweel, McGill University, Montreal, Canada (**Primary Supervisor** SURE Program)
Position: Structural Engineer, The Lane Construction Corporation, Waco, Texas, United States.

Professional Memberships

Swiss Society for Earthquake Engineering and Structural Dynamics (SGEB), *Individual Member*
 Swiss Society of Engineers and Architects (SIA), *Individual Member*
 European Association of Steel and Composite Construction (ECMM), *Individual Member*
 American Society of Civil Engineers (ASCE), *Associate Member*
 Canadian Society of Civil Engineers (CSCE), *Sustaining Member*
 Canadian Welding Association (CWA), *Member*
 Architectural Institute of Japan (AIJ)
 American Concrete Institute (ACI)
 American Institute of Steel Construction (AISC)
 Earthquake Engineering Research Institute (EERI)
 Network for Earthquake Engineering Simulation (NEES)
 National Information Center of Earthquake Engineering (NICEE)
 United States Geological Survey (USGS)
 Canadian Association for Earthquake Engineering
 Hellenic Society of Civil Engineers

Referee Work for Funding Agencies

2016-present International Laboratory for Research in Earthquake Engineering (ILEE), China
 2016-present National Science Foundation (NSF), USA
 2013-present National Sciences and Engineering Research Council of Canada (NSERC)

¹ SURE: Summer Undergraduate Research in Engineering, McGill University, <http://www.mcgill.ca/engineering/current-students/undergraduate/research>

² NSERC: Natural Sciences and Engineering Research Council of Canada, <http://www.nserc-crsng.gc.ca/>

2012-present National Science Foundation, Portugal, Europe
2011-present Ontario Centres of Excellence, Canada
2013-present Karatheodoris Program for Research and Innovation, University of Patras, Patras, Greece

Referee Work - Official Reviewer in Engineering Journals

ASCE, Journal of Structural Engineering
Earthquake Engineering & Structural Dynamics
Canadian Journal of Civil Engineering
ASCE, Journal of Bridge Engineering
Soil Dynamics and Earthquake Engineering
Journal of Structures and Buildings
Earthquake Spectra
Engineering Structures
Computers & Structures
Journal of Earthquake Engineering
Bulletin of Earthquake Engineering
Computer-Aided Civil & Infrastructure Engineering

Referee Work in Engineering Conferences

11th National Conference on Earthquake Engineering (NCEE), June 25th – 29th, 2018, Los Angeles, California.
16th European Conference on Earthquake Engineering (ECEE), June 18th-21st, 2018, Thessaloniki, Greece.
16th World Conference on Earthquake Engineering (WCEE), January 9th-13th, 2017, Santiago, Chile.
CSCE Annual Conference, May 27th-30th, 2015, Regina, Saskatchewan, Canada.
10th National Conference on Earthquake Engineering (NCEE), July 21-25, 2014, Anchorage, Alaska.
Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013 (VEESD 2013), 28-30th August 2013, Vienna Austria.
11th International Conference on Structural Safety and Reliability (ICOSSAR 2013), Columbia University, New York, NY, June 16th-20th, 2013.
15th World Conference in Earthquake Engineering (15WCEE), Lisbon, Portugal, September 24th-28th, 2012.
9th US National and 10th Canadian Conference on Earthquake Engineering, Reaching Beyond Borders, Toronto, Canada, July, 25-29, 2010.
3rd International Conference on Advances on Experimental Structural Engineering (3AESE), San Francisco, 15-16, 2009, CA.

Organization of International Conferences and Member of Scientific Committees

2019 12th Canadian Conference on Earthquake Engineering (12CCEE), June 17-20, 2019, Quebec, Canada; **Technical Committee**.

2018 11th National Conference on Earthquake Engineering (NCEE), June 25-29, 2018, Los Angeles, California; **planning and organization of a conference session** on “Recent Advancements in Performance-Based Earthquake Engineering”.

2018 16th European Conference on Earthquake Engineering (ECEE), June 15-21, 2018, Thessaloniki, Greece; **planning and organization of a conference session** on “Performance-Based Earthquake Engineering in Practice: Is it Worth the Trouble?”.

2017 International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN17, Rhodes, Greece, June 15-17, 2017; **sponsored mini-symposium** on “Loss, Risk, Uncertainty and Nonlinear Modeling for Performance-Based Earthquake Engineering”.

2017 American Society of Civil Engineers (ASCE) Structures Congress, Pittsburgh, Pennsylvania, United States of America, April 6th-8th 2017; **organized a sponsored session** on “Seismic Behavior of Steel Columns-Experimental-Findings, Nonlinear Modeling and Evaluation Criteria for Performance-Based Earthquake Engineering”.

- 2017 16th World Conference on Earthquake Engineering (WCEE), January 9th-13th, Santiago, Chile. **planning and organization** of a conference session on “Collapse Risk Assessment of Structures”.
- 2017 16th World Conference on Earthquake Engineering (WCEE), January 9th-13th, Santiago, Chile. **planning and organization** of a conference session on “Recent Advances in Performance-Based Earthquake Engineering”.
- 2015 Engineering Mechanics Institute Conference (EMI), June 16-19, 2015, Stanford University, Stanford, California; **planning and organization of a conference session** on “Dr. Helmut Krawinkler Memorial Symposium on Performance-Based Earthquake Engineering”.
- 2015 International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN15, Crete, Greece, May 25th-27th, 2015; **organized a sponsored mini-symposium** on “Loss, Risk, Uncertainty and Modeling for Seismic Performance Assessment”.
- 2014 10th National Conference on Earthquake Engineering (NCEE), July 21-25, 2014, Anchorage, Alaska; **planning and organization of a conference session** on “Need for Collapse Characterization/Quantification of Structures Subjected to Extreme Earthquake Loading”.
- 2013 Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013 (VEESD 2013), 28-30th August 2013, Vienna Austria; **organized a mini-symposium** on “State of Knowledge in Collapse Assessment of Structures During Earthquakes”.
- 2013 American Society of Civil Engineers (ASCE) Structures Congress, Pittsburgh, Pennsylvania, United States of America, May 2-4th 2013; **organized a sponsored session** on “Collapse Assessment of Conventional and High Performance Structures”.
- 2012 American Society of Civil Engineers (ASCE) Structures Congress, Chicago, Illinois, United States of America, March 29-31st 2012; **organized a sponsored session** on “Recent Advancements in Collapse Assessment of Structures Under Earthquakes”.
- 2011 American Society of Civil Engineers (ASCE) Structures Congress, Las Vegas, United States, April 14-16th 2011; **organized a sponsored session** on “Recent Developments in Simplified Nonlinear Static Procedures for Seismic Evaluation and Design of Structural Systems”.
- 2011 International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN11, Corfu, Greece, May 26th-28th, 2011; **organized a sponsored mini-symposium** on “Practical Analytical Methods in Estimation of Engineering Demands on Structural Systems Subjected to Natural and Man-made Hazards”.
- 2016-2017 **Member of Scientific Committee:** National Conference of Steel Structures, 5th-7th October 2017, Larissa, Greece.
- 2013-2014 **Member of Scientific Committee:** National Conference of Steel Structures, 2nd-4th October 2014, Tripoli, Greece.
- 2012-2013 **Member of Scientific Committee:** Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013 (VEESD 2013), 28-30th August 2013, Vienna, Austria.

Editorships

- 2015 – present ASCE, Journal of Structural Engineering, Associate Editor for Metal Structures and Earthquake Engineering.
- 2018 - Special Editor, Special Issue on Advances in Seismic Design and Assessment of Steel Structures, Soil Dynamics and Earthquake Engineering, Elsevier
- 2014 – present Editorial Board of International Journal of Earthquakes and Structures (EAS).
- 2013 – 2015 Encyclopedia of Earthquake Engineering, Springer, Associate Editor for Aseismic Design.
- 2013 – 2014 3rd Specialty Conference on Disaster Prevention and Mitigation, Proceedings, Annual Conference of Canadian Society for Civil Engineering (CSCE), Montreal, Quebec, Canada.

Technology Transfer

Web-Based Interactive Tools for Performance-Based Earthquake Engineering: Developed a series of tools available to public that facilitate nonlinear component modeling of steel connections, fragility curves and

fully searchable structural component databases. Steel Educators, Structural Engineers and Researchers can use these tools. They are publically available online from the following webpage: <http://resslabtools.epfl.ch/>

IIDAP, Version 1.0: “Interactive Interface for Incremental Dynamic Analysis Procedure”, Nonlinear dynamic analysis software that includes all recent deterioration models and is able to conduct incremental dynamic analysis for single degree of freedom systems utilizing different sets of ground motions and alternative state-of-the-art scaling techniques. The program is able to develop fragility functions for different damage states given a hazard level and collapse acceleration spectra. Available for free from the following webpage: <https://resslab.epfl.ch/RESSLab-tools> (*Copyright Protected*).

Currently used from graduate students at École Polytechnique Fédérale de Lausanne (EPFL) in the following course:

CIVIL 714: “Performance-based Earthquake Engineering”

Currently used from graduate students at McGill University University in the following courses:

CIVE 616: “Nonlinear Structural Analysis for Buildings”

CIVE 603: “Structural Dynamics”

Currently used from graduate students at Stanford University in the following courses:

CEE 385: “Performance-Based Earthquake Engineering”, (Offered by Prof. E. Miranda)

CEE 288: “Earthquake Hazard and Risk Analysis”, (Offered by Prof. A. Kiremidjian)

Administrative Roles

- 2017-present Member, EDCE Civil and Environmental Engineering, Doctoral Program Committee, Department of Architecture, Civil and Environmental Engineering, Swiss Federal Institute of Technology, Lausanne (EPFL)
- 2011-2015 Member, Undergraduate Studies Committee, Department of Civil Engineering, McGill University
- 2011-2012 Member, Faculty and Student Advisory Group for the development of a new learning management system (LMS) for McGill University
- 2011-2015 Member, Graduate Studies Committee, Department of Civil Engineering, McGill University
- 2012-present Member, Education and Research Committee across Canada, Canadian Society of Civil Engineering
- 2010-2015 Member, Undergraduate Student Advisory Committee for U1 Civil Engineering Students, McGill University
- 2010-2015 Chair, Undergraduate and Graduate Student-Staff Committee, McGill University
- 2010-2015 Chair, Construction Colloquium Committee
- 2010-2015 Faculty Advisor of the Canadian Society of Civil Engineering (CSCE) Student Chapter
- 2014-2015 Chair, Computer Committee, Department of Civil Engineering, McGill University
- 2014-2015 Undergraduate Student Recruitment, Faculty of Engineering, McGill University

Skills

Languages: Greek: Native, English: Fluent (C2), French: Advanced (B1)

High level of computer knowledge (Java, C++, FORTRAN, Visual Basic Applications (VBA), MySQL, php, html, MATLAB, DADiSP, ABAQUS, ANSYS, NASTRAN, Solidworks, AutoCAD) and Structural Engineering Software Packages (SAP, ETABS, RAM Perform 3D, OpenSees)