Dimitrios Lignos, PhD., dip., -Ing., SIA

Full Professor & Department Chair

École Polytechnique Fédérale de Lausanne, Switzerland

Curriculum Vitae

Education

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 (Deceased)

2003-2004 **Stanford University, CA, USA**
Master of Science (**MSc**) in Civil and Environmental Engineering. (CEE)
Advisor: Professor Helmut Krawinkler (Deceased) **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**

Principal Fields of Research Interest

Design and Behavior of Steel & Composite Steel Concrete Structures
Structural Stability
Performance-Based Design
Earthquake Engineering
Nonlinear Finite Element Modeling with Emphasis at Extreme Limit States
Experimental Methods in Civil Engineering
Behavior and Modelling of High-Performance Materials

Academic Path (Appointments)

2021 – present **Director (Department Chair),** Civil Engineering Institute, School of Architecture, Civil & Environmental Engineering (ENAC), École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

2023 – present **Full Professor,** École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

2016 – 2023 **Associate Professor,** École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

2016 – 2018 **Adjunct Professor,** McGill University, Montreal, QC, H3A 2K6, Canada

2015 – 2016 **Associate Professor (tenured),** 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, USA

2009 – 2010 **JSPS Postdoctoral Researcher**, Disaster Prevention Research Institute (DPRI), Division of Earthquake Resistant Structures, Kyoto University, Japan
Supervisor: Professor Masayoshi Nakashima (Kyoto University, E-Defense)

2008 – 2009 **Postdoctoral Researcher**, Stanford University, Stanford, CA, USA
Supervisor: Professor S. Billington (Stanford, CA, USA)

2008 – 2009 **Visiting Researcher**, University of California, Berkeley, CA, USA

2006 – 2007 **Visiting Researcher**, State University at Buffalo, Buffalo, New York (SUNY), USA
Supervisor: Professor A. Whittaker (Buffalo, NY, USA)

2004 – 2008 **Graduate Student Researcher**, Stanford University, Stanford, CA, USA
Supervisor: Professor H. Krawinkler (Stanford, CA)

Publication Record & Bibliometrics

Citations Google Scholar: 8062 **Citation report Scopus: 4759**

h-index: 41 **h-index: 35**

i10-index: 102

Articles in Peer-Reviewed Journals (published or in press)

Order of authors in journal papers: In all the publications involving my doctoral students and post-doctoral scientists, I appear as the corresponding author and as the last author (except 2 papers that I appear as the first and corresponding author). In collaborative papers, graduate students or post-doctoral scientists usually appear before the professors and other collaborators.

J.1. Heredia Rosa, D. I., de Castro e Sousa, A., **Lignos, D.G.**, Maity, A., Kanvinde, A. (2024). "A Multiaxial Plasticity Model with Softening for Simulating Inelastic Local Buckling in Steel Beam-Columns under Monotonic Loading through Fiber Elements", *ASCE Journal of Structural Engineering* (accepted), doi: 10.1061/JSENDH/STENG-13136.

J.2. Wang., S., Wang, W., **Lignos, D.G.** (2024). "Uniaxial Material Model with Softening for Simulating the Cyclic Behavior of Steel Tubes in Concrete-Filled Steel Tube Beam-Columns", *Earthquake Engineering & Structural Dynamics* (EESD), doi: 10.1002/eqe.4204.

J.3. Skiadopoulos, A., **Lignos, D.G**. Arita, M., Hiroshima, S. (2023). "Full-Scale Experiments of Cyclically Loaded Welded Moment Connections with Highly Inelastic Panel Zones and Simplified Weld Details", *ASCE Journal of Structural Engineering*, Vol. 149(12), pp. 04023167.

J.4. Maison, B., Speicher, M.S. **Lignos, D.G.** (2023). "Backbone Curve Variations on Steel Building Seismic Response", *Earthquake Spectra*, Vol. 39(3), pp. 1945-1962.

J.5. Skiadopoulos, A., de Castro e Sousa, A., **Lignos, D.G**. (2023). "Experiments and Proposed Model for Residual Stresses in Hot-Rolled Wide Flange Shapes", *Journal of Constructional Steel Research,* Vol. 210, pp. 108069.

J.6. Skretas, N., Karavasilis, T.L., **Lignos, D.G.** (2023). "Proposed Stiffener Spacing Requirements for the Seismic Design of Short Links in Eccentrically Braced Steel Frames", *ASCE Journal of Structural Engineering*, Vol. 149(6), pp. 04023058.

J.7. Maity, A., Kanvinde, A., Heredia Rosa, D.I., de Castro e Sousa, A., **Lignos, D.G.** (2023). "A Displacement-based Fiber Element to Simulate Interactive Lateral Torsional and Local Buckling in Steel Members", *ASCE Journal of Structural Engineering*, Vol. 149(5), pp. 040230045.

J.8. Hartloper, A.R., Ozden, S., de Castro e Sousa, A., **Lignos, D.G.** (2023). "Uniaxial Cyclic and Tensile Tests on Structural Metallic Materials", *ASCE Journal of Structural Engineering*, Vol. 149(5), pp. 04723001.

J.9. Paronesso, M., **Lignos, D.G.** (2023). "Influence of Gravity Connections and Damper Activation Forces on the Seismic Behavior of Steel CBF Buildings with Dissipative Floor Connectors", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 52(7), pp. 2135-2155.

J.10. Bijelic, N., **Lignos, D.G.,** Alahi, A. (2023). "The Automated Collapse Data Constructor Technique and the Data-Driven Methodology for Seismic Collapse Risk Assessment", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 52(8), pp. 2452-2479 (*Special Issue: AI and data-driven methods in earthquake engineering*).

J.11. Akcelyan, S., **Lignos, D.G.** (2023). "Seismic Assessment and Retrofit of Pre-Northridge High Rise Steel Moment Resisting Frame Buildings with Bilinear Oil Dampers", Buildings, Vol. 13(1), pp. 139-166.

J.12. Farahi, M., Heidarpour, A., **Lignos, D.G.,** Zhao, X-L., Al-Mahaidi, R.S. (2022). "Experimental Investigation of the Inelastic Cyclic Behavior of Concrete-Filled Double-Skin Tubular Beam-Columns with Corrugated Inner Skins and Ultra High-Strength Corner Tubes", *ASCE Journal of Structural Engineering*, Vol. 148(12), pp. 04022190.

J.13. Mohri, M., Ferretto, I., Leinenbach, C., Kim, D., **Lignos, D.G.,** Ghafoori, E. (2022). "Effect of Thermomechanical Treatment and Microstructure on Pseudo-Elastic Behavior of Fe-Mn-Si-Cr-Ni-(V, C) Shape Memory Alloy", *Material Science and Engineering: A, Structural Materials Properties Microstructure and Processing*, Vol. 855, pp. 143917.

J.14. Skiadopoulos, A., **Lignos, D.G**. (2022). "Seismic Demands of Steel Moment Resisting frames with Inelastic Beam-to-Column Web Panel Zones", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 51(7), pp. 1591-1609.

J.15. Skiadopoulos, A., **Lignos, D.G**. (2022). "Proposed Backing Bar Detail in Welded Beam-to-Column Connections for Seismic Applications", *ASCE Journal of Structural Engineering*, Vol. 148(8), pp. 04022102.

J.16. Inamasu, H., de Castro e Sousa, A.A., **Lignos, D.G.** (2022). "Development and Experimental Validation of Dissipative Embedded Column Base Connections for Enhanced Seismic Performance of Steel Moment Resisting Frames", *ASCE Journal of Structural Engineering*, Vol. 148(3), pp. 04021280.

*****2022 Best Journal Paper Award in Material and Structural Response in ASCE Journal of Structural Engineering*****

J.17. Hartloper, A., de Castro e Sousa, A.A., **Lignos, D.G.** (2022). "Best-fit Constraint Equations for Coupling Mixed-Dimension Simulation Models with Wide Flange Cross Sections", *Finite Elements in Analysis and Design,* Vol. 208, pp. 103782.

J.18. Inamasu, H., **Lignos, D.G.** (2022). "Finite Element Modeling and Cyclic Behavior of Dissipative Embedded Column Base Connections", *Journal of Constructional Steel Research*, Vol. (189), 107063.

J.19. El Jisr, H., Kohrangi, M., **Lignos, D.G.** (2022). "Proposed Nonlinear Macro-Model for Seismic Risk Assessment of Composite-Steel Moment Resisting Frames", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 51(5), pp. 1180-1200.

J.20. Paronesso, M., **Lignos, D.G.** (2022). "Low-Damage Steel Structures for Enhanced Life-Cycle Seismic Performance", *Stalhbau*, Vol. 91(5), pp. 315-325.

J.21. Paronesso, M., **Lignos, D.G.** (2022). "Seismic Design and Performance of Steel Concentrically Braced Frame Buildings with Dissipative Floor Connectors", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 51(15), pp. 3505-3525.

J.22. Inamasu, H., **Lignos, D.G.** (2022). "Seismic Performance of Steel Columns Interacting with Embedded Column Bases while Exhibiting Inelastic Deformations", *Engineering Structures*, Vol. 251, pp. 113381.

J.23. Hartloper, A., de Castro e Sousa, A.A., **Lignos, D.G.** (2022). "Warping-Inclusive Kinematic Coupling in Mixed-Dimension Macro Models for Steel Wide-Flange Beam-Columns", *ASCE Journal of Structural Engineering*, Vol. 148(2), pp. 04021253.

J.24. de Castro e Sousa, A.A., Hartloper, A.R., **Lignos, D.G.** (2021). "Cyclic Metal Plasticity Model Parameters with Limited Information: A constrained Optimization Approach", *ASCE Journal of Engineering Mechanics*, Vol. 157(7). pp. 04021035.

*****featured as Editor's Choice for 07/2021 in ASCE Journal of Engineering Mechanics*****

J.25. Paronesso, M., **Lignos, D.G.** (2021). "Experimental Study of Sliding Friction Damper with Composite Materials for Earthquake Resistant Structures", *Engineering Structures*, Vol. 248(1), pp. 113063.

J.26. Hartloper, A.R., de Castro e Sousa, A.A., **Lignos, D.G.** (2021). "Constitutive Modeling of Structural Steels: Nonlinear Isotropic/Kinematic Hardening Material Model and Its Calibration", *ASCE Journal of Structural Engineering*, Vol. 147(4), pp. 04021031.

J.27. El Jisr, H., **Lignos, D.G.** (2021). "Fragility Assessment of Beam-Slab Connections for Informing Earthquake-induced Repairs in Composite-Steel Moment Resisting Frames", *Frontiers* in Built Environment, Earthquake Engineering, Vol. 7, pp. 1-15, Article, 691553.

J.28. Suzuki, Y., **Lignos, D.G.** (2021). "Experimental Evaluation of Steel Columns under Seismic Hazard-Consistent Collapse Loading Protocols", *ASCE Journal of Structural Engineering*, Vol. 147(4), pp. 04021020.

*****featured as Editor's Choice for 04/2021 in ASCE Journal of Structural Engineering*****

J.29. Skiadopoulos, A., **Lignos, D.G.** (2021). "Development of Inelastic Panel Zone Database", *ASCE Journal of Structural Engineering*, Vol. 147(4), pp. 04721001.

J.30. Skiadopoulos, A., Elkady, A., **Lignos, D.G.** (2021). "Proposed Panel Zone Model for Seismic Design of Steel Moment-Resisting Frames", *ASCE Journal of Structural Engineering*, Vol. 147(4), pp. 04021006.

*****2022 Raymond C. Reese Award for its outstanding contribution to the application of structural engineering research, ASCE Journal of Structural Engineering*****

J.31. Inamasu, H., de Castro e Sousa, A.A., Güell, Bartrina, G., **Lignos, D.G.** (2021). "Anchor-Yield Exposed Column Bases for Minimizing Residual Deformations in Seismic-Resistant Steel Moment Frames", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 50(4), pp. 1083-1100, doi.org/10.1002/eqe.3392.

J.32. Inamasu, H., Kanvinde, A., **Lignos, D.G.** (2021). "Seismic Design of Non-Dissipative Embedded Column Base Connections", *Journal of Constructional Steel Research*, Vol. 177, pp. 106417, doi.org/10.1016/j.jcsr.2020.106417.

J.33. Akcelyan, S., **Lignos, D.G.** (2021). "Rate-Dependent Model for Simulating the Hysteretic Behavior of Low-Yield Stress Buckling-Restrained Braces under Dynamic Excitations", *Engineering Structures*, Vol. 230, pp. 111659, doi.org/10.1016/j.engstruct.2020.111659.

J.34. Heredia Rosa, D.I., Hartloper, A.R., de Castro e Sousa, A.A., **Lignos, D.G.,** Motavalli, M., Ghafoori, E. (2021). "Experimental Behavior of Iron-based Shape Memory Alloys under Cyclic Loading Histories", *Journal of Construction & Building Materials*, Vol 272, pp. 121712, doi.org/10.1016/j.cconbuildmat.2020.121712.

J.35. Elkady, A., **Lignos, D.G.** (2020). "Software for Earthquake Risk, Loss and Lifecycle Analysis", *Software X*, Vol. 12, pp. 100607, doi.org/10.1016/j.softx.2020.100607.

J.36. Suzuki, Y., **Lignos, D.G.** (2020). "Fiber-based Model for Simulating Strength and Stiffness Deterioration of Steel Hollow Structural Section Columns under Cyclic Loading", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 49(15), pp. 1702-1720, doi: 10.1002/eqe.3324.

J.37. El Jisr, H., Elkady, A., **Lignos, D.G.** (2020). "Hysteretic Behavior of Moment-Resisting Frames Considering Slab Restraint and Framing Action", *ASCE Journal of Structural Engineering*, Vol. 146(8), pp. 04020145, doi: 10.1061/(ASCE)ST.1943-541X.0002696.

J.38. de Castro e Sousa, A.A., Suzuki, Y., **Lignos, D.G.** (2020). "Consistency in Solving the Inverse Problem of the Voce-Chaboche Constitutive Model for Plastic Straining", *ASCE Journal of Engineering Mechanics*, Vol. 146(9), pp. 04020097, doi: 10.1061/(ASCE)ST.1943-7889.0001839.

J.39. Elkady, A., Güell, G., **Lignos, D.G.** (2020). "Proposed Methodology for Building-Specific Earthquake Loss Assessment Including Column Residual Axial Shortening", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 49(4), pp. 339-355, doi: 10.1002/eqe.3242.

J.40. Kolwankar, S., Kanvinde A., Kenawy, M., **Lignos, D.G.,** Kunnath, S. (2020). "Simulating Cyclic Local Buckling Induced Softening in Steel Beam-Columns using a Nonlocal Material Model in Displacement-based Fiber Elements", *ASCE Journal of Structural Engineering*, Vol. 146(1), 04019174, doi: 10.1061/(ASCE)ST.1943-541X.0002457.

J.41. Cravero, J., Elkady, A., **Lignos, D.G**. (2020). "Experimental Evaluation and Numerical Modeling of Wide-Flange Steel Columns Subjected to Constant and Variable Axial Load Coupled with Lateral Drift Demands", *ASCE Journal of Structural Engineering*, Vol. 146(3), 04019222, doi: 10.1061/(ASCE)ST.1943-541X.0002499.

J.42. Suzuki, Y., **Lignos, D.G.** (2020). "Development of Collapse-Consistent Loading Protocols for Experimental Testing of Steel Columns", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 49(2), pp. 114-131, doi: 10.1002/eqe.3225.

J.43. Lignos, D.G., **Hartloper, A.R.** (2020). "Steel Column Stability and Implications in the Seismic Assessment of Steel Structures According to Eurocode 8 Part 3", *Stahlbau*, Vol. 89(1), pp. 16-27, doi: 10.1002/stab.201900108.

J.44. Inamasu, H., Kanvinde, A., **Lignos, D.G.** (2019). "Seismic Stability of Wide-Flange Steel Columns Interacting with Embedded Column Base Connections", *ASCE Journal of Structural Engineering*, Vol. 145(12), pp. 04019151, doi: 10.1061/(ASCE)ST.1943-541X.0002410.

J.45. **Lignos, D.G.**, Hartloper, A.R., Elkady, A., Deierlein, G.G., Hamburger, R. (2019). "Proposed Updated to ASCE 41 Nonlinear Modeling Parameters for Wide-Flange Steel Columns in Support of Performance-based Earthquake Engineering", *ASCE Journal of Structural Engineering*, Vol. 145(9), pp. 04019083, doi: 10.1061/(ASCE)ST.1943-541X.0002353.

*****featured as Editor's Choice for 04/2019 in ASCE Journal of Structural Engineering*****

J.46. El Jisr, H., Elkady, A., **Lignos, D.G.** (2019). "Composite Steel Beam Database for Seismic Design and Performance Assessment of Composite-Steel Moment-Resisting Frame Systems", *Bulletin of Earthquake Engineering*, Vol. 17(6), pp. 3015-3039, doi: 10.1007/s10518-019-00564-w.

J.47. Motallebi, M., **Lignos, D.G.**, Rogers, C.A. (2019). "Full-Scale Testing of Stiffened Extended Shear Tab Connections under Combined Axial and Shear Forces", *Engineering Structures*, Vol. 185, pp. 90-105, doi: 10.1016/j.engstruct.2019.01.125.

J.48. Del Carpio, M.R., Mosqueda, G., **Lignos, D.G.** (2019). "Experimental Investigation of Steel Building Gravity Framing Systems under Strong Earthquake Shaking", *Soil Dynamics and Earthquake Engineering*, Vol. 116, pp. 230-241, doi: 10.1016/j.soildyn.2018.10.017.

J.49. Ibrahim, O., **Lignos, D.G.,** Rogers, C.A. (2019). "Recommendations for Improved Welding Procedures for Thick Steel Plates Through Thermo-Mechanical Finite Element Analysis", *International Journal of Steel Structures*, Vol. 19(1), pp. 193-212, doi: https://doi.org/10.1007/s13296-018-0110-2.

J.50. 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,* Vol. 34(3), pp. 1405-1429, doi: 10.193/122017EQS260M.

J.51. 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.

*****Most cited paper in ASCE Journal of Structural Engineering since 2018*****

J.52. 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.53. Kolwankar, S., Kanvinde A., Kenawy, M., **Lignos, D.G.,** Kunnath, S. (2018). "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.54. 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.55. 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.56. 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.57. 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.58. Hwang, S-H., **Lignos, D.G.** (2018). "Nonmodel-based Framework for Rapid Seismic Risk and Loss Assessment of Instrumented Steel Buildings", *Engineering Structures*, Vol. 156 (1), pp. 417-432, doi: 10.1016/j.engstruct.2017.11.045.

J.59. Hwang, S-H., **Lignos, D.G.** (2017). "Earthquake-Induced Loss Assessment of Steel Frame Buildings with Special Moment Frames Designed in Highly Seismic Regions", *Earthquake Engineering and Structural Dynamics* (EESD), Vol. 46 (13), pp. 2141-2162, doi: 10.1002/eqe.2739.

J.60. 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.61. 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.62. Ibrahim, O., **Lignos, D.G.,** Rogers, C.A. (2017). "A Probabilistic Approach for Assessing Discontinuities in Structural Steel Based on Charpy-V-Notch Tests", *Engineering Structures,* Vol. 147 (15), pp. 1-11, doi: https://doi.org/10.1016/j.engstruct.2017.05.016.

J.63. Eads, L., Miranda, E., **Lignos, D.G.** (2016). "Spectral Shape Metrics and Structural Collapse Potential", *Earthquake Engineering and Structural Dynamics* (EESD), Vol. 45 (10), pp. 1643-1659, doi: 10.1002/eqe.2739.

J.64. 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", *Earthquake Engineering and Structural Dynamics*, (EESD), Vol. 45(10), pp. 1563-1580, doi: 10.1002/eqe.2743.

J.65. 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.66. 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.67. 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.68. 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.

J.69. Eads, L., Miranda, E., **Lignos, D.G.** (2015). "Average Spectral Acceleration as an Intensity Measure for Collapse Risk Assessment", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 44(12), pp. 2057-2073, doi: 10.1002/eqe.2575.

J.70. **Lignos, D.G.,** Putman, C., Krawinkler, H. (2015). "Application of Simplified Analysis Procedures For Performance-Based Earthquake Evaluation of Steel Special Moment Frames", *Earthquake Spectra*, Article first published online: 14 Jan. 2015, doi: http: dx.doi.org10.1193081413EQS230M.

J.71. Elkady, A., **Lignos, D.G.** (2015). "Effect of Gravity Framing on the Overstrength and Collapse Capacity of Steel Frame Buildings with Perimeter Special Moment Frames", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 44(8), pp. 1289-1307, doi: 10.1002/eqe.2519.

*****Most cited paper in 2015-2016 in Earthquake Engineering and Structural Dynamics*****

J.72. Kazantzi, A., Vamvatsikos, D., **Lignos, D.G.** (2014). "Seismic Performance of a Steel Moment-Resisting Frame Subjected to Strength and Ductility Uncertainty", *Engineering Structures*, Vol. 78, pp. 69-77, doi: 10.1016/j.engstruct.2014.06.044.

J.73. Elkady, A., **Lignos, D.G.** (2014). "Modeling of the Composite Action in Fully Restrained Beam-to-Column Connections: Implications in the Seismic Design and Collapse Capacity of Steel Special Moment Frames", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 43(13), pp. 1935-1954, doi: 10.1002/eqe.2430.

J.74. **Lignos, D.G.,** Luna-Moreno, M.D., Billington, S.L. (2014). "Seismic Retrofit of Steel Moment Resisting Frames with High Performance Fiber Reinforced Concrete Infill Panels: Large Scale Hybrid Simulation Tests", *ASCE Journal of Structural Engineering,* Vol. 140 (3), pp. 1382-1394, doi:10.1061/(ASCE)ST.1943-541X.0000877.

J.75. **Lignos, D.G.,** Miranda, E. (2014). "Estimation of Base Motion in Instrumented Steel Buildings Using Output-Only System Identification", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 43 (4), pp. 547-563, doi: 10.1002/eqe.2359.

J.76. Karamanci, E., **Lignos, D.G.** (2014). "Computational Approach for Collapse Assessment of Concentrically Braced Frames in Seismic Regions," *ASCE Journal of Structural Engineering*, Vol. 140**(8)**, pp. A4014019/1-15, doi: 10.1061/(ASCE)ST.1943-541X.0001062.

J.77. **Lignos, D.G.,** Karamanci, E. (2013). "Drift-Based and Dual-Parameter Fragility Assessment of Concentrically Braced Frames in Seismic Regions," *Journal of Constructional Steel Research* Vol. 90, pp. 209-220, doi: 10.1016/j.jcsr.2013.07.034.

J.78. Okazaki, T., **Lignos, D.G.,** Midorikawa, M., Ricles, J.M., Love, J. (2013). "Damage to Steel Buildings Observed after the 2011 Tohoku Earthquake", *Earthquake Spectra,* Vol. 29 (S1), pp. S219-S243*,* doi: http://dx.doi.org/10.1193/1.4000124.

J.79. **Lignos, D.G.,** Krawinkler, H. (2013). "Development and Utilization of Structural Component Databases for Performance-Based Earthquake Engineering", *ASCE Journal of Structural Engineering,* Vol. 139 (NEES 2), pp. 1382-1394, doi:10/1061/(ASCE)ST.1943-541X.0000646.

J.80. Okazaki, T., **Lignos, D.G.,** Hikino, T., Kajiwara, K. (2013). "Dynamic Response of a Concentrically Braced Frame", *ASCE Journal of Structural Engineering,* Vol. 139 (4), pp. 515-525, doi: 10.1061/(ASCE)ST.1943-541X.0000679.

J.81. **Lignos, D.G.,** Hikino, T., Matsuoka, Y., Nakashima, M. (2013). "Collapse Assessment of Steel Moment Frames Based on E-Defense Full Scale Shake Table Collapse Tests", *ASCE Journal of Structural Engineering,* Vol. 139 (**1**), pp. 120-132, doi: 10.1061/(ASCE)ST.1943-541X.0000608.

J.82. Eads, L., Miranda, E., Krawinkler, H., **Lignos, D.G.** (2013). "An Efficient Method for Estimating the Collapse Risk of Structures in Seismic Regions", *Earthquake Engineering & Structural Dynamics*, (EESD), Vol. 42 (1), pp. 25-41, doi: 10.1002/eqe.2191.

Most cited paper in 2013-2014 in Earthquake Engineering and Structural Dynamics*

J.83. Noh, H.Y., **Lignos, D.G.**, Nair, K. K., Kiremidjian, A. (2012). "Development of Fragility Functions as a Damage Classification/Prediction Method for Steel Moment Frames Using a Wavelet-based Damage Sensitive Feature", *Journal of Earthquake Engineering & Structural Dynamics* (EESD), Vol. 41(4), pp. 681-696, doi: 10.1002/eqe.1151.

J.84. Ramirez, C. M., **Lignos, D.G.,** Miranda, E., Kolios, D. (2012). "Fragility Functions for Pre-Northridge Welded Steel Moment-Resisting Beam-to-Column Connections", *Engineering Structures,* Vol. 45, pp. 574-584, doi: 10.1016/j.engstruct.2012.07.007.

J.85. **Lignos, D.G.,** Chung, Y.L., Nagae, T., Nakashima, M. (2011). "Numerical and Experimental Evaluation of Seismic Capacity of High-Rise Steel Buildings Subjected to Long Duration Earthquakes", *Journal of Computers and Structures*, Vol. 89 (11-12), pp. 959-967, doi: 10.1016/j.compstruc.2011.01.017.

J.86. **Lignos, D.G.,** Krawinkler, H. (2011). "Deterioration Modeling of Steel Components in Support to Collapse Prediction of Steel Moment Frames Under Earthquake Loading", *ASCE Journal of Structural Engineering,* Vol. 137 (11), pp. 1291-1302, doi: 10.1061/(ASCE)ST.1943-541X.0000376.

2013 ASCE State-of-the-art of Civil Engineering Award & among the top 10 most cited and most viewed articles in ASCE Journal of Structural Engineering since 2015 till now*

J.87. Noh, H.Y., Nair, K. K., **Lignos, D.G.,** Kiremidjian, A. (2011). "On the Use of Wavelet Based Damage Sensitive Features for Structural Damage Diagnosis using Strong Motion Data", *ASCE Journal of Structural Engineering*, Vol. 137 (10), pp. 1215-1228, doi: 10.1061/(ASCE)ST.1943-541X.0000385.

J.88. Shafei, B., Zareian, F., **Lignos, D.G.** (2011). "A Simplified Method for Collapse Capacity Assessment of Structural Systems", *Engineering Structures,* Vol. 33 (4), pp. 1107-1116, doi: 10.1016/j.engstruct.2010.12.028.

J.89. **Lignos, D.G.,** Krawinkler, H., Whittaker, A.S. (2011). "Prediction and Validation of Sidesway Collapse of Two Scale Models of a 4-Story Steel Moment Frame", *Earthquake Engineering & Structural Dynamics* (EESD), Vol. 40 (7), pp. 807-825, doi 10.1002/eqe.1061.

J.90. **Lignos, D.G.,** Kolios, D., Miranda, E. (2010). "Fragility Assessment of Reduced Beam Section Moment Connections", *ASCE Journal of Structural Engineering*, Vol. 136 (9), pp. 1140-1150, doi: 10.1061/(ASCE)ST.1943-541X.0000214.

J.91. Zareian, F., Krawinkler, H., Ibarra L.F., **Lignos, D.G.** (2009). "Basic Concepts and Performance Measures in Prediction of Collapse of Buildings under Earthquake Ground Motions", *The Structural Design of Tall and Special Buildings Journal*, Vol. 19 (1-2), 167-181, doi: 10.1002/tal.546.

Book Chapters

B.1. **Lignos, D.G.** (2019). "Capacity Design Principles for the Ductile Behaviour of Conventional and High-Performance Steel Structures under Earthquake Shaking", SteelDoc 03/2019, Construction Parasismique en acier (tec 05:2019), Zürich, Centre suisse de la construction métallique (SZS).

B.2. **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.3. 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.4. **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.5. 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.6. 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.

Peer-Reviewed Publications in Conference Proceedings

C.1. Heredia Rosa, D.I., de Castro e Sousa, A., **Lignos, D.G.** Maity, A., Kanvinde A. (2024). "A Multiaxial Plasticity Model with Softening for Fiber-based Steel Beam-Columns", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.2. **Lignos, D.G.** (2024). "The New Provisions of Eurocode 8 Part 3 for Seismic Assessment of Existing Steel Structures", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.3. El Jisr, H., **Lignos, D.G.** (2024). Collapse Behaviour of a Full-Scale Composite Steel Moment Resisting Frame under Cyclic Loading", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.4. Wen, C., Skiadopoulos, A., **Lignos, D.G.** (2024). "Proposed Web Slenderness Requirements for Inelastic Panel Zones in Steel Moment Resisting Frames", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.5. Wang, S., Wang, W., **Lignos, D.G.** (2024). "Fiber-based Unaxial Material Model for Simulating the Hysteretic Behaviour of Steel Tubes in Concrete-Filled Steel Tube Members", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.6. Inamasu, H., **Lignos, D.G.** (2024). "Weak-Base/Strong-Column Design Concept Utilizing Dissipative Embedded Column Base Connections", *Proceedings, the 18th World Conference on Earthquake Engineering,* Milan, Italy, June 30th -July 5th, 2024.

C.7. Inamasu, H., Bijelic, N., **Lignos, D.G.** (2024). "Seismic Performance of Steel Moment-Resisting Frames Utilizing Dissipative Embedded Column Base Connections", *Proceedings, the 11th International Conference on the Behaviour of Steel Structures in Seismic Areas,* Salerno, Italy, July 8-10, 2024.

C.8. Skretas, N., Karavasilis, T.L., **Lignos, D.G.** (2024). "Proposed Limits of Stiffener Spacing Requirements for Short and Intermediate Length EBF Steel Links", *Proceedings, the 11th International Conference on the Behaviour of Steel Structures in Seismic Areas,* Salerno, Italy, July 8-10, 2024.

C.9. Skiadopoulos, A., **Lignos, D.G.** (2024). "Modelling and Experimental Investigation of Ductile Crack Initiation in Welded Connections with Bevelled Backling Bars and Inelastic Panel Zones", *Proceedings, the 11th International Conference on the Behaviour of Steel Structures in Seismic Areas,* Salerno, Italy, July 8-10, 2024.

*****Best paper award in the category of Experimental Analysis*****

C.10. Luu, J., **Lignos, D.G.,** Rogers, C.A. (2024). "Slotted-Hidden-Gap (SHG) Connection for Square Hollow Section Bracing Members under Cyclic Loading", Proceedings, the 15th Nordic Steel Construction Conference, Lulea, Sweden, June 26-28, 2024.

C.11. Maity, A., Kanvinde, A., Heredia Rosa, D.I., de Castro e Sousa, A., **Lignos, D.G.** (2024). "A Novel Fiber Element to Simulate Interactive Local and Lateral Torsional Buckling in Steel Moment Frames", Proceedings of the Annul Stability Conference, Structural Stability Research Council, San Antonio, Texas, March 19-22, 2024.

C.12. **Lignos, D.G.** (2023). "The New Chapter 9 of Eurocode 8 Part 3 for Seismic Assessment of Existing Steel Structures", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.13. Skretas, N., Karavasilis, T.L., **Lignos, D.G.** (2023). "Proposed Limits of Stiffener Spacing Requirements for EBF Links Within the Framework of Eurocode 8", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.14. Skiadopoulos, A., Elkady, A., **Lignos, D.G.** (2023). "Proposed Panel Zone Model for Beam-to-Column Joints in Steel Moment Resisting Frames", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.15. Skiadopoulos, A., de Castro e Sousa., A., **Lignos, D.G.** (2023). "Experimental Evaluation and Modeling of Residual Stress Distributions for Hot-Rolled Wide Flange Steel Members", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.16. Skiadopoulos, A., **Lignos, D.G.** Arita, M., Hiroshima, S. (2023). "Experimental Investigation of Instability-Free Welded Moment Connections with Simplified Weld Details", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.17. Kazantzi, A., Elkady, A., Vamvatsikos, D., **Lignos, D.G.,** Miranda, E. (2023). "Ductile Steel Fuses for the Seismic Protection of Acceleration Sensitive non-structural Components: Numerical and Experimental Verification", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.18. Inamasu, H., de Castro e Sousa, A.A., **Lignos, D.G.** (2023). "Dissipative Embedded Column Bases for Enhanced Seismic Performance of Steel Moment Resisting Frames", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.19. El Jisr, H., **Lignos, D.G.** (2023). "Full-Scale Experiments of a Composite Steel Moment Resisting Frame: Behavioral Insights and Implications on Seismic Design", *Proceedings of 10th Hellenic National Conference of Steel Structures*, Athens, Greece, October 19-21, 2023.

C.20. Wen, C., Skiadopoulos, A., **Lignos, D.G.** (2023). "Geometric Tolerances of Welded Connections with Inelastic Panel Zones", *Proceedings of Eurosteel*, Amsterdam, Holland, September 11-15, 2023.

C.21. Skiadopoulos, A., de Castro e Sousa., A., **Lignos, D.G.** (2023). "Proposed Residual Stress Model for Hot-Rolled Wide Flange Steel Cross Sections", *Proceedings of Eurosteel*, Amsterdam, Holland, September 11-15, 2023.

C.22. Ozden, S., de Castro e Sousa., A., **Lignos, D.G.** (2023). "Digital-Image-Correlation for Simulating Cyclic Local Buckling in Steel Beams", *Proceedings of Eurosteel*, Amsterdam, Holland, September 11-15, 2023.

C.23. Skiadopoulos, A., **Lignos, D.G.** Arita, M., Hiroshima, S. (2023). "Hysteretic Behaviour of Welded Connections with Highly Inelastic Panel Zones", *Proceedings of Eurosteel*, Amsterdam, Holland, September 11-15, 2023.

C.24. Wang, S., Wang, W., **Lignos, D.G.** (2023). "Experimental Study of the Cyclic Behaviour of Steel Tube in Concrete-Filled Steel Tube Members", *Proceedings of Eurosteel*, Amsterdam, Holland, September 11-15, 2023.

C.25. Bijelic, N., Skiadopoulos, A., **Lignos, D.G.** (2023). "Surrogate Modelling for Seismic Collapse Risk Assessment of Steel Moment Resisting Frames", *Proceedings of Canadian Conference – Pacific Conference on Earthquake Engineering*, Vancouver, British Columbia, Canada, June 25-June 30, 2023.

C.26. Skiadopoulos, A., **Lignos, D.G.** (2022). "Towards Instability-Free Welded Moment Connections", *Proceedings of 13th HSTAM International Congress on Mechanics*, Patras, Greece, August 17-19, 2022.

C.27. Skiadopoulos, A., **Lignos, D.G.** (2022). "Seismic Stability of Steel Moment Resisting Frames with Inelastic Panel Zones", *Proceedings of 12th National Conference on Earthquake Engineering*, Salt Lake City, Utah, June 27-July 1, 2022.

C.28. Kazantzi, A., Miranda, E., Vamvatsikos, D., Elkady, A., **Lignos, D.G.,** (2022). "Analytical Studies in Support of an Improved Approach to the Design of Acceleration-Sensitive Nonstructural Elements", *Proceedings of 5th International Workshop on the Seismic Performance of Non-Structural Elements (SPONSE)*, Stanford University, Stanford, CA, USA, December 5-7, 2022.

C.29. Elkady, A., Vamvatsikos, D., **Lignos, D.G.,** Kazantzi, A., Miranda, E., (2022). "Experimental Study to Validate an Improved Approach to Design Acceleration-Sensitive Nonstructural Elements", *Proceedings of 5th International Workshop on the Seismic Performance of Non-Structural Elements (SPONSE)*, Stanford University, Stanford, CA, USA, December 5-7, 2022.

C.30. Skretas, N., Karavasilis, T.L., **Lignos, D.G.** (2022). "Assessment of Stiffener Spacing Design Requirements for Intermediate EBF Links via Nonlinear Finite Element Analysis", *Proceedings of 5th National Conference on Earthquake Engineering*, Athens, Greece, October 20-22, 2022.

C.31. Petridis, C., **Lignos, D.G.** Pitilakis, D. (2022). "Soil-Structure Interaction Effects on the Seismic Behavior of Steel Moment Resisting Frames: Preliminary Assessment", *Proceedings of 5th National Conference on Earthquake Engineering*, Athens, Greece, October 20-22, 2022.

C.32. Inamasu, H., **Lignos, D.G.** (2022). "Full-Scale Testing of European Steel Beams with Reduced Beam Section under Reversed Cyclic Loading", *Proceedings of the 10th International Conference on the Behaviour of Steel Structures in Seismic Areas (STESSA)*, Timisoara, Romania, May 25-27, 2022.

C.33. Inamasu, H., **Lignos, D.G.** (2022). "Development of Dissipative Embedded Column Base Connections for Mitigating Column Axial Shortening", *Proceedings of the 10th International Conference on the Behaviour of Steel Structures in Seismic Areas (STESSA)*, Timisoara, Romania, May 25-27, 2022.

C.34. El Jisr, H., **Lignos, D.G.** (2021). "Full-Scale Experiments of a 2-Bay Composite Steel Moment Resisting Frame under Lateral Cyclic Loading", *Proceedings of 9th International Conference on Composite Construction in Steel and Concrete,* Stromberg, Germany, July 26-30, 2021 (by invitation only).

C.35. El Jisr, H., **Lignos, D.G.** (2021). "The Role of Slab Continuity in the Behaviour of Composite-Steel Beam-to-Column Connections under Cyclic loading", *Proceedings of IX CONNECTIONS AISC-ECCS Workshop on Connections in Steel Structures*, Coimbra, Portugal, July22, 2021 (by invitation only).

C.36. El Jisr, H., **Lignos, D.G.** (2021). "Hysteretic Behaviour of Shear Stud Connectors in Composite Steel Moment-Resisting Frames", *Proceedings of Eurosteel*, Sheffield, United Kingdom, September 2021.

C.37. Elkady, A., **Lignos, D.G.** (2021). "EaRL: An Open-Source Software for Earthquake Risk, Loss and Lifecycle Assessment", Proceedings of the 13th International Conference on Structural Safety and Reliability (ICOSSAR 2021), Shanghai, China, June 21-25, 2021.

C.38. **Lignos, D.G.,** Suzuki, Y. (2020). "Collapse-Consistent Protocols for Experimental Testing of Steel Columns under Multi-axial Cyclic Loading", *Proceedings of 8th International Conference on Advances in Experimental Structural Engineering*, Christchurch, New Zealand, February 3-5, 2020 (keynote).

C.39. Inamasu, H., de Castro e Sousa, A.A., **Lignos, D.G.** (2020). "Cyclic Testing of Dissipative Embedded Column Base Connections for Steel Moment0-Resisting Frames", *Proceedings of 17th World Conference on Earthquake Engineering (17WCEE)*, Sendai, Japan, September 13-18, 2020.

C.40. Paronesso, M., **Lignos, D.G.** (2020). "Experimental Study of Sliding Friction Damper for High-Performance Steel Structures", *Proceedings of 17th World Conference on Earthquake Engineering (17WCEE)*, Sendai, Japan, September 13-18, 2020.

C.41. Skiadopoulos, A., Elkady, A., **Lignos, D.G.** (2020). "Improved Panel Zone Model for Seismic Design of Steel Moment Resisting Frames", *Proceedings of 17th World Conference on Earthquake Engineering (17WCEE)*, Sendai, Japan, September 13-18, 2020.

C.42. Suzuki, Y., **Lignos, D.G.** (2020). "Column Axial Shortening and its Effect on the Seismic Performance of Steel Moment Resisting Frames", *Proceedings of 17th World Conference on Earthquake Engineering (17WCEE)*, Sendai, Japan, September 13-18, 2020.

C.43. Inamasu, H., **Lignos, D.G.** (2019). "Concepts to Minimize Earthquake-induced Column Axial Shortening in Steel Moment-Resisting Frames", *Proceedings of the 2019 Pacific Structural Steel Conference*, November 9-11, 2019, Tokyo, Japan.

C.44. Inamasu, H., de Castro e Sousa, A.A., **Lignos, D.G.** (2019). "An Explicit Model for Exposed Column Base Connections and Its Parameter Sensitivity", *Proceedings of the 2019 Pacific Structural Steel Conference*, November 9-11, 2019, Tokyo, Japan.

C.45. Inamasu, H., de Castro e Sousa, A.A., Guell, G., **Lignos, D.G.** (2019). "Exposed Column Base Connections for Minimizing Earthquake-induced Deformations in Steel Moment-Resisting Frames", *Proceedings of the 2019 Conference on Earthquake Risk and Engineering Towards a Resilient World*, September 9-10, 2019, Greenwich, London.

C.46. Heredia, D.I., Sousa, A., Hartloper, A.R., **Lignos, D.G.,** Ghafoori, E., Motavali, M. (2019). "Behavior of Iron-based Shake Memory Alloys under Cyclic Loading", *Proceedings of the 5th International Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures* (SMAR 2019), August 27-29, 2019, Potsdam, Germany.

C.47. Hartloper, A.R., Sousa, A., **Lignos, D.G.** (2019). "Sensitivity of Simulated Steel Column Instabilities to Plasticity Model Assumptions", *Proceedings of the 12th Canadian Conference on Earthquake Engineering* (CCEE 2019) June 17-20, 2019, Québec, Canada.

C.48. Akcelyan, S., **Lignos, D.G.** (2019). "A Practical Method for Seismic Retrofit of Tall Buildings with Supplemental Damping", *Proceedings of the 12th Canadian Conference on Earthquake Engineering* (CCEE 2019) June 17-20, 2019, Québec, Canada.

C.49. Suzuki, Y., and **Lignos, D.G.** (2018). "Fiber-Based Model for Earthquake-induced Collapse Simulation of Steel Frame Buildings", *Proceedings, 11th U.S. National Conference on Earthquake Engineering,* (11NCEE), June 25th to 29th 2018, Los Angeles, California, USA.

C.50. Deierlein, G.G., **Lignos, D.G.,** Bono, S., Kanvinde, A. (2018). "Guidelines on Nonlinear Dynamic Analysis for Seismic Design of Steel Moment Frames", *Proceedings, 11th U.S. National Conference on Earthquake Engineering,* (11NCEE), June 25th to 29th 2018, Los Angeles, California, USA.

C.51. **Lignos, D.G.,** Hartloper, A.R., Elkady, A., Hamburger, R., Deierlein, G.G. (2018). "Revised ASCE-41 Modeling Recommendations for Moment-Resisting Frame Systems", *Proceedings, 11th U.S. National Conference on Earthquake Engineering,* (11NCEE), June 25th to 29th 2018, Los Angeles, California, USA.

C.52. Inamasu, H., **Lignos, D.G.,** Kanvinde, A. (2018). "Influence of Embedded Steel Column Base Strength on Earthquake-induced Residual Deformations", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.53. Elkady, A., Hwang, S-H., **Lignos, D.G.** (2018). "EaRL: Toolbox for Earthquake Risk and Loss Assessment of Building Assets", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.54. Suzuki, Y., and **Lignos, D.G.** (2018). "Improving the Collapse Risk of Steel Structures with High-Performance Steel", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.55. Akcelyan, S., and **Lignos, D.G.** (2018). "Seismic Retrofit of Steel Tall Buildings with Bilinear Oil Dampers", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.56. Nikolaidou, V., Rogers, C., and **Lignos, D.G.** (2018). "Influence of Non-Structural Components on the Seismic Response of Cold-Formed Steel Structures", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.57. El Jisr, H., and **Lignos, D.G.** (2018). "Composite Beam Effects and Implications to Seismic Design Provisions", *Proceedings, 16th European Conference on Earthquake Engineering,* (16ECEE), June 18th to 21th 2018, Thessaloniki, Greece.

C.58. Inamasu, H., **Lignos, D.G.,** Kanvinde, A. (2018). "Effect of Column Base Flexibility on Earthquake-Induced Residual Deformations of Steel Columns", *Proceedings, 9th International Conference on the Behaviour of Steel Structures in Seismic Areas* (STESSA 2018), February 14th to 17th 2018, Christchurch, New Zealand.

C.59. Hwang, S.H., and **Lignos, D.G.** (2018). "Earthquake-Induced Collapse Risk and Loss Assessment of Steel Concentrically Braced Frames", *Proceedings, 9th International Conference on the Behaviour of Steel Structures in Seismic Areas* (STESSA 2018), February 14th to 17th 2018, Christchurch, New Zealand.

C.60. Elkady, A., Cravero, J., and **Lignos, D.G.** (2018). "Steel Columns under Multi-Axis Seismic Loading: Experimental Findings and Design Recommendations", *Proceedings, 9th International Conference on the Behaviour of Steel Structures in Seismic Areas* (STESSA 2018), February 14th to 17th 2018, Christchurch, New Zealand.

C.61. Elkady, A., and **Lignos, D.G.** (2017). "Development of Bidirectional Cyclic Lateral Loading Protocols for Experimental Testing of Steel Wide-Flange Columns", *Proceedings of the 3rd Huixian International Forum on Earthquake Engineering for Young Researchers, University of Illinois,* August 11-12, 2017, Urbana-Champaign, USA.

C.62. Inamasu, H., **Lignos, D.G.,** Kanvinde, A. (2017). "Effect of Column Base Flexibility on the Hysteretic Response of Wide Flange Steel Columns", *Proceedings of the 3rd Huixian International Forum on Earthquake Engineering for Young Researchers, University of Illinois,* August 11-12, 2017, Urbana-Champaign, USA.

C.63. Inamasu, H., Kanvinde, A., **Lignos, D.G.** (2017). "The Seismic Stability of and Ductility of Steel Columns Interacting with Concrete Footings", *Proceedings of the 8th International Conference on Composite Construction,* July 30th – August 2nd, 2017, Jackson Hole, Wyoming, USA *(invited paper)*

C.64. Hwang, S.H., and **Lignos, D.G.** (2017). "Proposed Methodology for Earthquake-Induced Loss Assessment of Instrumented Steel Frame Buildings: Building-Specific and City-Scale Approaches", *Proceedings of the 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering*, June 15-17, 2017, Rhodes, Greece.

C.65. Elkady, A., and **Lignos, D.G.** (2017). "Stability Requirements of Deep Steel Wide-Flange Columns under Cyclic Loading", *Proceedings of the Annual Stability Conference Structural Stability Research Council*, March 21-24, 2017, San Antonio, Texas, USA.

C.66. Motallebi, M., **Lignos, D.G.,** Rogers, C.A. (2017). "Stability of Extended Beam-to-Girder Shear Tab Connections under Induced Shear Force", *Proceedings of the Annual Stability Conference Structural Stability Research Council*, March 21-24, 2017, San Antonio, Texas, USA.

C.67. Elkady, A., and **Lignos, D.G.** (2017). "Full-Scale Cyclic Testing of Deep Slender Wide-Flange Steel Beam-Columns Under Unidirectional and Bidirectional Lateral Drift Demands", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 944.

C.68. Hwang, S.H., and **Lignos, D.G.** (2017). "Approximate Method for Performance-Based Seismic Assessment of Steel Moment-Resisting Frames", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 928.

C.69. Suzuki, Y., and **Lignos, D.G.** (2017). "Collapse Behavior of Steel Columns as Part of Steel Frame Buildings: Experiments and Numerical Models", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 1032.

C.70. Nikolaidou, V., Latreille, P., Rogers, C.A., **Lignos, D.G.** (2017). "Characterization of Cold-Formed Steel Framed/Wood Sheathed Floor and Roof Diaphragm Structures", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 452.

C.71. Ramos, D.C., Mosqueda, G., **Lignos, D.G.** (2017). "Seismic Performance of a Special Steel Moment-Resisting Frame Subassembly from the Onset of Damage through Collapse", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 1165.

C.72. Miranda, E., Eads, L., Davalos, H., and **Lignos, D.G.** (2017). "Assessment of the Probability of Collapse of Structures during Earthquakes", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile, Paper No. 2441.

C.73. Haselton, C., Deierlein, G.G., Grannoum, W., Hachem, M., Malley, J., Hooper, J., **Lignos, D.G.,** Mazzoni, S., Pujol, S. (2016). "Guidelines on Nonlinear Dynamic Analysis for Performance-Based Seismic Design of Steel and Concrete Moment Frames", *Proceedings, SEAOC Convention*, Maui, Ka'anapali Beach, October 12-15, 2016, USA.

C.74. Hamburger, R.O., Deierlein, G.G., Lehman, D., Lowes, L., Van de Lindt, J., **Lignos, D.G.,** Hortacsu, A., Heintz, J. (2016). "ATC-114 Next-Generation Hysteretic Relationships for Performance-based Modeling and Analysis", *Proceedings, SEAOC Convention*, Maui, Ka'anapali Beach, October 12-15, 2016, USA.

C.75. **Lignos, D.G.,** Suzuki, Y. (2016). "Loading Histories for Cyclic Tests in Support of Collapse Assessment of Steel Columns," *Proceedings, 2nd Huixian International Forum on Earthquake Engineering for Young Researchers*, Beijing, China 2016.

C.76. Rogers, C.A., Marosi, M., Hertz, J., **Lignos, D.G.,** Tremblay, R., D'Aronco, M. (2016). "Performance of Weld-Retrofit Beam-to-Column Shear Tab Connections", *Proceedings, Connections VIII Conference, American Institute of Steel Construction*, May 2016, Boston, MA, USA.

C.77. **Lignos, D.G.**, Elkady, A. (2016). "Effect of Composite Beam Action on the Hysteretic Behavior of Fully-Restrained Beam-to-Column Connections under Cyclic Loading", *Proceedings, Connections VIII Conference, American Institute of Steel Construction*, May 2016, Boston, MA, USA.

C.78. Elkady, A., **Lignos, D.G.** (2016). "Dynamic Stability of Deep and Slender Wide-Flange Steel Columns – Full Scale Experiments", *Proceedings of the Annual Stability Conference structural Stability Research Council*, April 12-15, 2016, Orlando, Florida, USA.

C.79. Motallebi, M., **Lignos, D.G.,** Rogers, C.A. (2016). "Finite Element Simulation of Buckling of Extended Beam-to-Girder Shear Tab Connections under Gravity Induced Shear Force", *Proceedings of the Annual Stability Conference structural Stability Research Council*, April 12-15, 2016, Orlando, Florida, USA.

C.80. Hwang, S.H., Elkady, A., **Lignos, D.G.** (2015). "Design Decision Support for Steel Frame Buildings through Earthquake-Induced Loss Assessment", *Proceedings, ATC Conference*, June 9-12 2015, San Francisco, California, USA.

C.81. Hwang, S.H., Elkady, A., Al-Bardaweel, S., **Lignos, D.G.** (2015). "Earthquake Loss Assessment of Steel Frame Buildings Designed in Highly Seismic Regions", *Proceedings, 5th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering*, May 25-27 2015, Crete Island, Greece.

C.82. Elkady, A., **Lignos, D.G. (**2015). "Seismic Design Criteria for Steel Moment Resisting Frames for Collapse Risk Mitigation", *Proceedings, 8th International Conference on Behavior of Steel Structures in Seismic Areas,* Shanghai, China, July 1-3, 2015.

C.83. Suzuki, Y., **Lignos, D.G.** (2015). "Large Scale Collapse Experiments of Wide Flange Steel Beam-Columns", *Proceedings, 8th International Conference on Behavior of Steel Structures in Seismic Areas*, Shanghai, China, July 1-3, 2015.

C.84. Hertz, J., **Lignos, D.G.,** Rogers, C.A. (2015). "Full-Scale Experimental Testing of Extended Beam-to-Column and Beam-to-Girder Shear Tab Connections Subjected to Shear", *Proceedings, 8th International Conference on Behavior of Steel Structures in Seismic Areas*, Shanghai, China, July 1-3, 2015.

C.85. Cerri, S., Moir, H., **Lignos, D.G.** (2015). "Development of R_y, R_t Factors and Probable Brace Resistance Axial Loads for the Seismic Design of Bracing Connections and Other Members", *Proceedings, 8th International Conference on Behavior of Steel Structures in Seismic Areas*, Shanghai, China, July 1-3, 2015.

C.86. Motallebi, M., Hertz, J., Goldstein, N., **Lignos, D.G.,** Rogers, C.A. (2015). "Flexural Buckling of Extended Shear Tab Connections Under Gravity Included Shear Force", *Proceedings, Structural Stability Conference (SSRC), Nashville, Tennessee*, United States, March 24-27, 2015.

C.87. Ibrahim, O., Nikolaidou, V., **Lignos, D.G.,** Rogers, C.A. (2014). "Evaluation of Common Welding Procedures for Thick Steel Plates and High Strength Steel Sections", *Proceedings, 8th Hellenic National Conference of Steel Structures*, October 2nd – 4th, Tripoli, Greece.

C.88. Elkady, A., **Lignos, D.G.** (2014). "Cyclic Out-of-Plane Instability of Deep Wide-Flange Steel Beam-Columns", *Proceedings of 8th Hellenic National Conference of Steel Structures*, October 2nd – 4th, Tripoli, Greece.

C.89. Elkady, A., **Lignos, D.G.** (2014). "Effect of the Gravity Framing on the Overstrength and Collapse Risk of Steel Special Moment Frames Designed in North America", *Proceedings of 8th Hellenic National Conference of Steel Structures,* October 2nd – 4th, Tripoli, Greece.

C.90. Perus, I., Biskinis, D., Fajfar, P., Fardis, M.N., Grammatikou, S., Krawinkler, H., **Lignos, D.G.** (2014). "The Series Database of RC Elements", *Proceedings of 2nd European Conference on Earthquake Engineering and Seismology*, Istanbul, August 25th-29th, 2014, Turkey.

C.91. Nikolaidou, V., Rogers, C.A., **Lignos D.G.** (2014). "Influence of Welding of Doubler Plates to ASTM A913 450MPa Grade Columns," Proceedings Eurosteel, September 10th-12th 2014, Naples, Italy.

C.92. Suzuki, Y., **Lignos, D.G.** (2014). "Development of Loading Protocols for Experimental Testing of Steel Columns Subjected to Combined High Axial Load and Lateral Drift Demands Near Collapse," *Proceedings of 10th National Conference on Earthquake Engineering (10th NCEE)*, Anchorage, Alaska, July 21st-25th, Paper No. 280.

C.93. Elkady, A., **Lignos, D.G.** (2014). "Cyclic Behavior of Deep Slender Wide-Flange Steel Beam-Columns Under Combined Lateral Drift and Axial Load," *Proceedings of 10th National Conference on Earthquake Engineering (10th NCEE)*, Anchorage, Alaska, July 21st-25th, Paper No. 887.

C.94. Miranda, E., **Lignos, D.G.,** Krawinkler, H., Eads, L. (2014). "Efficient Collapse Risk Assessment for Performance-Based Earthquake Engineering," *Proceedings of 10th National Conference on Earthquake Engineering (10th NCEE)*, Anchorage, Alaska, July 21st-25th, Paper No. 1468.

C.95. Miranda, E., Fell, B., **Lignos, D.G.,** Mosqueda, G., Krawinkler, H., Hashemi, J., Eads, L., Negrete, M., Medina, R., Zargar, S. (2014). "Collapse Assessment of Multi-Story Buildings Through Hybrid

Testing – NEES Research," *Proceedings of 10th National Conference on Earthquake Engineering (10th NCEE)*, Anchorage, Alaska, July 21st-25th, Paper No. 1472.

C.96. Elkady, A., **Lignos, D.G.** (2013). "Collapse Assessment of Steel Moment Resisting Frames Designed with Deep Members," *Proceedings Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics* (VEESD 2013), Vienna, Austria, 28-30, August 2013, Paper No. 249.

C.97. Kazantzi, A.K., Vamvatsikos, D., **Lignos D.G.** (2013). "Model Parameter Uncertainty Effects on the Seismic Performance of a 4-story Steel Moment-Resisting Frame," *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR),* Columbia University, New York, NY, June 16-20, 2013.

C.98. **Lignos, D.G.** Karamanci, E., Al-Sawwa, N. (2013). "Structural Component Databases for Performance-Based Earthquake Engineering," *Proceedings of 11th International Conference on Structural Safety & Reliability (ICOSSAR),* Columbia University, New York, NY, June 16-20, 2013.

C.99. Ibrahim, O.A., **Lignos, D.G.,** Rogers, C.A. (2013). "Estimation of Residual Stresses in Thick Steel Plates due to Welding Through Finite Element Simulation," *Proceedings Canadian Society of Civil Engineering (CSCE), 3rd Specialty Conference on Material Engineering and Applied Mechanics*, Montreal, Quebec, May 29th-June 1st, 2013.

C.100. Nikolaidou, V., Rogers, C.A., **Lignos, D.G.** (2013). "Finite Element Modeling of Welding Procedures in High Strength W-Shapes," *Proceedings of Canadian Society of Civil Engineering (CSCE), 3rd Specialty Conference on Material Engineering and Applied Mechanics*, Montreal, Quebec, May 29th-June 1st 2013.

C.101. Mirshafiei, F., McClure, G., **Lignos, D.G.** (2013). "Seismic Assessment of Irregular Low-Rise Buildings Based on a 3-Dimensional Simplified Method," *Proceedings Canadian Society of Civil Engineering (CSCE), 3rd Specialty Conference on Material Engineering and Applied Mechanics*, Montreal, Quebec, May 29th-June 1st, 2013.

C.102. Elkady, A., **Lignos, D.G.** (2013). "Effect of Composite Action on the Dynamic Stability of Special Steel Moment Resisting Frames Designed in Seismic Regions," *Proceedings of ASCE Structures Congress*, May 2nd-4th, Pittsburgh, PA, USA, SEI institute.

C.103. **Lignos, D.G.,** Karamanci, E. (2013). "Predictive Equations for Modeling Cyclic Buckling and Fracture of Steel Braces," *Proceedings of 10th International Conference on Urban Earthquake Engineering (10CUEE), Tokyo, Japan,* March 1st-2nd, 2013.

C.104. 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 Minisimposium).

C.105. **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 of 9th*, *International Conference on Urban Earthquake Engineering (9CUEE) & 4th Asia Conference on Earthquake Engineering*, Tokyo, Japan March 6th - 8th, 2012.

C.106. **Lignos, D.G.,** Karamanci, E., Martin, G. (2012). "A Steel Database for Modeling Post-Buckling Behavior and Fracture of Concentrically Braced Frames Under Earthquakes," *Proceedings,15th World Conference of Earthquake Engineering (15WCEE), September 24th-28th, Lisbon, Portugal,* 2012.

C.107. Eads, L., Miranda, E., Krawinkler, H., **Lignos, D.G.** (2012). "Improved Estimation of Collapse Risk for Structures in Seismic Regions," *Proceedings, 15th World Conference of Earthquake Engineering (15WCEE)*, September 24th-28th, Lisbon, Portugal, 2012.

C.108. Gray, M.G., Christopoulos, C., Packer, J.A., **Lignos, D.G.** (2012). "Design and Seismic Performance of Buildings Using the Cast Steel Yielding Brace System as the Primary Lateral Force Resisting System," *Proceedings of 15th World Conference of Earthquake Engineering (15WCEE)*, September 24th-28th, Lisbon, Portugal, 2012.

C.109. **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 of 9th*, *International Conference on Urban Earthquake Engineering (9CUEE) & 4th Asia Conference on Earthquake Engineering*, Tokyo, Japan March 6th - 8th, 2012.

C.110. 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 of ASCE Structures Congress*, March 29th-31st, Chicago, IL, USA, SEI institute.

C.111. 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.112. **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, 7th International Conference on Behaviour of Steel Structures in Seismic Areas, STESSA 2012*, Santiago, Chile, paper No 0055.

C.113. **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 of 7th National Conference of Steel Structures*, Volos, Greece, September 27th – 29th, 2011, paper No. 23.

C.114. **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.115. **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 of 7th National Conference of Steel Structures*, Volos, Greece, September 27th – 29th, 2011, paper No. 25.

C.116. **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.117. **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," *Proceedings of 3rd International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN11, May 26th-28th,* Corfu, Greece.

C.118. **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.119. Okazaki, T., **Lignos, D.G.,** Hikino, T., Kajiwara, K. (2011). "Dynamic Response of a Steel Concentrically Braced Frame," *Proceedings ASCE Structures Congress*, Las Vegas, April 14-16th 2011, USA, SEI institute.

C.120. Krawinkler, H., **Lignos, D.G.,** Putman, C. (2011). "Prediction of Nonlinear Response – Pushover Analysis versus Simplified Nonlinear Response History Analysis", *Proceedings of ASCE Structures Congress*, Las Vegas, April 14-16th 2011, USA, SEI institute.

C.121. **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.122. 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 of 8th*, *International Conference on Urban Earthquake Engineering (8CUEE)*, Tokyo, Japan March 7th - 8th, 2011.

C.123. **Lignos, D.G.,** Luna-Moreno, M. D., Billington, S.L. (2011). "Experimental and Analytical Validation of a Seismic Retrofit System for Existing Steel Moment-Resisting Frames," *Proceedings, 8th*,

International Conference on Urban Earthquake Engineering (8CUEE), Tokyo, Japan March 7th - 8th, 2011.

C.124. **Lignos, D.G.,** Hikino, T., Matsuoka, Y., Nakashima, M. (2010). "Collapse Assessment of Steel Moment Frames Based on E-Defense Full Scale Shake Table Collapse Tests", *Proceedings, 13th Japan Earthquake Engineering Symposium, Tsukuba, Japan, November 17th – 20th, 2010.*

C.125. 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.126. 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 of 5th World Conference on Structural Control and Monitoring*, Tokyo, July 12-14th, Japan.

C.127. **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.128. **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 of 7th International Conference on Urban Earthquake Engineering (7CUEE)*, Tokyo, March 3rd - 5th, Japan, 2010.

C.129. **Lignos, D.G.,** Billington, S.L. (2010). "Hybrid Testing of a Retrofitted Steel Moment Resisting Frame with Infill Panels", *Proceedings of 9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders,* July 25-29, Toronto, Canada, 2010.

C.130. 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 of 9th US National and 10th Canadian Conference on Earthquake Engineering: Reaching Beyond Borders,* July 25-29, Toronto, Canada, 2010.

C.131. **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*.

C.132. 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 of 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.133. **Lignos, D.G.,** Krawinkler, H., Whittaker, A. (2009). "Contributions to Collapse Prediction of Steel Moment Frames Through Recent Earthquake Simulator Collapse Tests", *Proceedings of 3rd International Conference on Advances in Experimental Structural Engineering*, October 15-16, San Francisco, CA, 2009.

C.134. **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.135. **Lignos, D.G.,** Krawinkler, H., Zareian, F. (2009). "Modeling of Component Deterioration for Collapse Prediction of Steel Frames", *Proceedings of 6th International Conference on Behaviour of Steel Structures in Seismic Areas, STESSA 2009*, Philadelphia, Pennsylvania, USA.

C.136. 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 of 7th International Workshop on Structural Health Monitoring*, Stanford, CA, September 9-11, 2009.

C.137. 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.138. 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.139. **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.140. 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.141. 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 of 14th World Conference in Earthquake Engineering* Beijing, China. (Invited paper).

C.142. 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).

C.143. **Lignos, D.G.,** Krawinkler, H., Whittaker, A. (2008). "Shaking Table Collapse Tests of a 4 – Story Steel Moment Frame", *Proceedings of 14th World Conference in Earthquake Engineering* Beijing, China, October 12-17, 2008.

C.144. **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.145. **Lignos, D.G.,** Krawinkler, H., Whittaker, S. A., (2008). "Collapse Tests of Two Scale Models of a Steel Frame Structure", *Proceedings of 6th NEES* (*Network for Earthquake Engineering Simulation*) *Annual Meeting*, Portland, Oregon, June 18th – 20th, 2008.

C.146. **Lignos, D.G.,** Krawinkler, H., Whittaker, S. A., (2008). "Analytical and Experimental Prediction of Sidesway Collapse of Steel Frames", *Proceedings of 6th National Conference of Steel Structures*, Ioannina, Greece, October 2nd – 4th, 2008.

C.147. **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.

C.148. **Lignos**, **D.G.,** Krawinkler, H., Gantes, C.J., (2006). "Seismic Demands for Frames with Strength and Stiffness Irregularities Based on MPA", Proceedings *of* 5th *International Conference on Behavior of Steel Structures in Seismic Areas*, STESSA 2006, Yokohama Japan.

C.149. **Lignos**, **D.G.,** Gantes, C.J. (2005). "Modal Pushover Analysis as a Tool for Practical Design of Structures", *Proceedings of 3rd conference on Mechanics and Solids*, MIT, paper 008.

C.150. **Lignos**, **D.G.,** Stergiou, E.C., Gantes, C.J. (2005). "Structural Reliability of Steel Structures Based on Interstory Drift and Direct Loss Demands", *Proceedings of 5th GRACM conference on computational mechanics*, Cyprus.

C.151. **Lignos**, **D.G.,** Gantes, C. J. (2005). "Design Considerations for the Effects of Near Fault Ground Motions on Steel Structures", *Proceedings of 5th national conference on steel structures*, Xanthi, Greece.

C.152. **Lignos**, **D.G.,** Gantes, C.J. (2005). "Seismic Demands for Steel-Braced Frames with Stiffness Irregularities Based on Modal Pushover Analysis", *Proceedings of 4th European workshop on seismic behaviour of irregular and complex structures*, Thessalonica, Greece.

Peer Reviewed Technical Reports

TR.1. 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.2. 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.3. **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.4. **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.5. **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.6. **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.7. Krawinkler, H., Zareian, F., Haas, K., **Lignos, D.G.** (2006). "Issues Affecting the R-Factor Determination of Autoclaved Aerated Concrete (AAC) Buildings," Applied Technology Council (ATC-63) project on Quantification of Building System Performance and Response Parameters.

TR.8. **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).

Contributions to Practical Applications of Knowledge / International Technical Guidelines

P.1. NIST (2017). "Recommended modelling 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, Washington, DC, USA.

Available from: https://nvlpubs.nist.gov/nistpubs/gcr/2017/NIST.GCR.17-917-45.pdf

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, Washington, DC, USA.

Available from: https://www.nehrp.gov/pdf/nistgcr11-917-13.pdf

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, Washington, DC, USA.

Available from: https://www.nehrp.gov/pdf/nistgcr10-917-9.pdf

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, Washington, DC, USA.

Available from: https://www.nehrp.gov/pdf/nistgcr10-917-8.pdf

Invited Lectures

Invited Speaker in Universities, International Organizations & Institutions (47)

T.1. **Lignos, D.G.** (2023). "Experimental Behavior of Steel Elements and the Implementation in Building Codes", Sociedad Mexicana de Ingenieria Estructural, A.C., August 24th, 2023 (webinar, link: https://fb.watch/mDpZRsLrJV/).

T.2. **Lignos, D.G.** (2023). "Recent Advancements in Performance-based Design and Seismic Risk Assessment of Steel Structures", Society for Earthquake and Civil Engineering Dynamics (SECED), June 14th, 2023 (webinar, link: https://www.ice.org.uk/events/latest-events/seismic-risk-assessment-of-steel-structures).

T.3. **Lignos, D.G.** (2023). "Conception et Comportement Sismique des Cadres et Assemblages Mixtes", SteelAcademy, Centre Suisse de la Construction en Acier (SZS), Fribourg, March 28th, 2023 (in French) (link: https://szs.ch/fr/steelevent/steelacademy-02-2023/)

T.4. **Lignos, D.G.** (2023). "Earthquake-induced Loss Modelling and Analysis with Emphasis on Steel Frame Buildings", Nagoya University, Japan February 14th, 2023.

T.5. **Lignos, D.G.** (2023). "EN1998-1-2:2022: Composite Steel-Concrete Buildings", Second Generation of Eurocode 8, January 24th, 2023 (webinar, link: https://youtu.be/5S3dCmijtg4).

T.6. **Lignos, D.G.** (2023). "CEN/TS 1998-1-101: Characterization & Qualification of Structural Components for Seismic Applications by Means of Cyclic Tests", Second Generation of Eurocode 8, January 24th, 2023 (webinar, link: https://youtu.be/XtnIO6o3es4).

T.7. **Lignos, D.G.** (2022). "Performance-based Design of Steel Moment Resisting Frames Against Extreme Earthquake Loading", Dalian University, China, June 22nd, 2022 (webinar).

T.8. **Lignos, D.G.** (2022). "Seismic Behavior, Assessment and Retrofitting of Existing Steel Bridges", Rijkswaterstaat, Government Administration, Den Haag, The Netherlands, March 14th, 2022.

T.9. **Lignos, D.G.** (2021). "Constitutive Material Models for Structural Steel under Inelastic Cyclic Straining in OpenSees – Examples and Calibration Approaches for Consistency input Material Model Parameters", University of Auckland, March 19th, 2021 (webinar).

T.10. **Lignos, D.G.** (2021). "Large-Scale Steel Columns Tests and Collapse Simulations of Steel Moment Resisting Frames under Seismic Loading – Lessons Learnt and Future Research Directions", Earthquake Engineering Research Institute, Student Chapter, University of Toronto, March 3rd, 2021 (webinar).

T.11. **Lignos, D.G.** (2021). "Performance-based Design of Infrastructure to National Hazards – Accomplishments and Future Challenges", UniL – EPFL Seminar Series, CLIMACT Ideas & Actions, February 1st, 2021.

T.12. **Lignos, D.G.** (2019). "Seismic Stability of Steel Moment-Resisting Frames – Current Progress and Future Challenges", Universidad Tecnica Federico Santa Maria, Chile, September 6, 2019.

T.13. **Lignos, D.G.** (2019). "Seismic Stability of Steel Moment-Resisting Frames – Current Progress and Future Challenges", University of Chile, Chile, September 6, 2019.

T.14. **Lignos, D.G.** (2018). "Seismic Design and Analysis of Steel and Composite Steel Structures within the Framework of the new Eurocode 8", Invited Seminar Series, Steel Structures Laboratory, Civil Engineering Institute, National Technical University of Athens, Greece, December 15, 2018.

T.15. **Lignos, D.G.** (2018). "Framework for Seismic Risk and Loss Assessment of Steel Structures", Kolloquium, ETZ-Zürich, Switzerland, December 10, 2018.

T.16. **Lignos, D.G**. (2018). "Lessons Learned from Large-Scale Steel Column Tests and Collapse Simulations of Steel Moment-Resisting Frames under Seismic Loading", Annual Seminar Series, MSc

Programme on Earthquake Engineering and Infrastructure Resilience, University of Bristol, UK, November 15, 2018.

T.17. **Lignos, D.G.** (2018). "Steel Columns under Multi-Axis Cyclic Loading: Experiments, "Digital Twins" and Reparability Curves", Universita Degli Studi Di Napoli, Federico II (University of Naples), Naples, Italy, June 13th, 2018.

T.18. **Lignos, D.G.** (2018). "Life-Cycle Costs of Steel Frame Buildings Subjected to Earthquake Loading", Universita Degli Studi Di Napoli, Federico II (University of Naples), Naples, Italy, June 13th, 2018.

T.19. **Lignos, D.G.** (2018). "Cas Spécifique et des Exigences Qualité dans l'Eurocode 8", Steel Academy, Centre Suisse de la Construction Métallique (SZS), Lausanne, Switzerland, April 3rd, 2018.

T.20. **Lignos, D.G.** (2018). "Collapse Risk and Loss Assessment of Steel Moment-Resisting Frames Designed with Deep Wide-Flange Steel Columns", Monash University, Australia, February 12th, 2018.

T.21. **Lignos, D.G.** (2018). "Framework for Assessing the Earthquake-induced Collapse Risk of Steel Structures", Sapienza, University of Rome, Department of Structural Engineering and Geotechnics, Rome, Italy, February 6th, 2018.

T.22. **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", 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.23. **Lignos, D.G.** (2017). "Experimental Evaluation of Steel Columns under Multi-Axis Cyclic Loading", Futtsu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, April 3rd 2017.

T.24. **Lignos, D.G.** (2016). "Simulation Platform and Use of Innovative Technologies to Improve the Seismic Resilience of Steel Frame Buildings in Seismic Areas", Swiss Federal Laboratories for Material Science and Technology (EMPA), September 12th, 2016.

T.25. **Lignos, D.G.** (2016). "Earthquake-Induced Collapse Risk and Loss Assessment of Steel Frame Buildings Designed in Highly Seismic Regions", Tsinghua University, Beijing China, August 22nd, 2016.

T.26. **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", Institute of Engineering Mechanics (IEM), China Earthquake Administration, Beijing China, August 19th, 2016.

T.27. **Lignos, D.G.** (2015). "Use of Innovative Technologies to Mitigate the Collapse Risk of Steel Frame Buildings in Seismic Areas", Concordia University, Montreal Canada, December 2nd 2015.

T.28. **Lignos, D.G.** (2015). "Collapse Risk Assessment of Steel Frame Buildings in Highly Seismic Regions", Futtsu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, June 29th 2015.

T.29. **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.30. **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.31. **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.32. **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.33. **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.34. **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.35. **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, Futtsu Research and Development Laboratory, Nippon Steel and Sumitomo Metal Corporation, Tokyo, Japan, February 28th 2013.

T.36. **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.37. **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.38. **Lignos, D.G.** (2011). "Lessons learnt From The 2011 Great Tohoku Earthquake in Japan", Stanford University, Earthquake Engineering Research Institute (EERI) Student Chapter, Stanford, CA, USA, July 28th 2011.

T.39. **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.40. **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.

T.41. **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 Centre for Earthquake Engineering Research (MCEER) lecture series, State University of New York at Buffalo (SUNY), Department of Civil & Environmental Engineering, February 23rd, 2011.

T.42. **Lignos, D.G.** (2009). "State of Knowledge on Collapse Assessment of Structural Systems", McGill University, Canada, Department of Civil & Environmental Engineering, May 29th, 2009.

T.43. **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.

T.44. **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.

T.45. **Lignos, D.G.** (2008). "Contributions to Collapse Prediction of Frame Structures: Accomplishments, Future Implications and Directions", Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, April 10th 2008.

T.46. **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.

T.47. **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 Lectures/Theme Sessions at International Conferences/Symposia/Workshops (18)

L.1. **Lignos, D.G.** (2022). "Recent Advancements in the Seismic Behavior and Design of Composite Steel Structures via Full-Scale Experiments and Numerical Simulations", 5th National Conference on Earthquake Engineering, Athens, Greece, October 20-22, 2022.

L.2. **Lignos, D.G.** (2021). "Performance-Based Design of Steel Structures for Enhanced Lifecycle Seismic Performance", International Conference on National Hazards and Infrastructure (ICONHIC), Athens, Greece, June 22-24, 2021 (postponed to June 2022 due to the pandemic).

L.3. **Lignos, D.G.** (2020). "Parameters for Nonlinear Modeling of Wide Flange and HSS Columns", American Institute of Steel Construction, Chicago, Illinois, USA, November 17th, 2020 (webinar).

L.4. **Lignos, D.G.** (2020). "Multi-Fidelity Nonlinear Modeling of Steel and Composite Structures with OpenSees", 5th International Workshop on Seismic Analysis of Structures using OpenSees, Finite Element-based Framework and Civil Engineering Applications, Politecnico di Torino, January 20th – 22nd, 2020.

L.5. **Lignos, D.G.** (2019). "Capacity Design of Steel Structures – Requirements and General Principles", Steel Academy 2019, Centre Suisse de la Construction Métallique, Lausanne, Switzerland, September 19, 2019.

L.6. **Lignos, D.G.** (2019). "Capacity Design of Steel Structures – Requirements and General Principles", Steel Academy 2019, Centre Suisse de la Construction Métallique, Horw, Switzerland, September 9, 2019.

L.7. **Lignos, D.G.** (2018). "Fragility and Vulnerability Functions for Steel Components and Buildings", International Workshop, Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe (SERA), Porto, Portugal, October 2nd, 2018.

L.8. **Lignos, D.G.** (2018). "Seismic Risk Assessment of Existing Steel Frame Buildings in Switzerland", 16th Swiss Geoscience Meeting (SGM), Swiss Seismological Service, November 30th – December 1st, 2018.

L.9. **Lignos, D.G.** (2018). "Revised ASCE-41 Modeling Recommendations for Moment-Resisting Frame Systems", Invited Speaker in Special Session Organized by the Applied Technology Council, 11th U.S. National Conference on Earthquake Engineering (11NCEE), Los Angeles, California, USA, June 25-29, 2018.

L.10. **Lignos, D.G.** (2018). "Improving the Collapse Risk of Steel Structures with High-Performance Steel", Invited Speaker, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, June 18-21, 2018.

L.11. **Lignos, D.G.** (2018). "Cas Spécifique et des Exigences Qualité dans l'Eurocode 8", Steel Academy, Centre Suisse de la Construction Métallique, Switzerland, April 4, 2018.

L.12. **Lignos, D.G.** (2017). "Collapse Behavior of Steel Columns as Part of Steel Frame Buildings: Experiments and Numerical Models", *Proceedings, 16th World Conference on Earthquake Engineering* (16WCEE), January 9th to 13th 2017, Santiago, Chile.

L.13. **Lignos, D.G.** (2016). "Loading Histories for Cyclic Tests in Support of Collapse Assessment of Steel Columns", 2nd Huixian International Forum on Earthquake Engineering for Young Researchers, Beijing China, August 19th – 21st, 2016.

L.14. **Lignos, D.G.** (2015). "Experimental and Analytical Evaluation of the Seismic Performance of Deep Columns in Steel Moment Resisting Frames", École Polytechnique Montréal, International Workshop on the Seismic Response of I-Shaped Columns in Steel Moment Frames and Braced Frames, November 2nd 2015.

L.15. **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.

L.16. **Lignos, D.G.** (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.

L.17. **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.

L.18. **Lignos, D.G.** (2006). "A Database for Modeling Deterioration in Beams and Columns Subjected to Cyclic Bending Moments," *4th Annual Meeting of. Network for Earthquake Engineering Simulation* (NEES), Washington DC, June 18th-20th, 2006.

Keynote Speeches (18)

K.1. **Lignos, D.G.** (2023). "Towards Sustainable Design of Steel Structures Against Natural Hazards", Research Day, School of Architecture, Civil & Environmental Engineering, Roorkee, Lausanne, Switzerland, September 7th 2023 (https://mediaspace.epfl.ch/media/ENAC+Research+Day+2023+-+Session+1/0_dx0nz0d9?st=265&ed=1705).

K.2. **Lignos, D.G.** (2022). "Advancing the Seismic Performance of Steel Moment Resisting Frames through Physical Testing and Numerical Simulations", 17th Symposium on Earthquake Engineering, Roorkee, India, November 14 – 17, 2022.

K.3. **Lignos, D.G.** (2022). "Recent Advancements for the Nonlinear Analysis and Seismic Evaluation of Steel Structures", Second Eurasian Conference on OpenSees, OpenSees Days, Torino, Italy, June 6 – 8, 2022.

K.4. **Lignos, D.G.** (2022). "Performance-based Design of Steel Structures against Extreme Earthquake Loading", 3rd International Conference on Concrete and Steel Technology, Engineering and Design (CASTED 2022), Quezon City, Philippines, May 19 – 21, 2022 (switched to online event due to COVID-19 pandemic).

K.5. **Lignos, D.G.** (2021). "Advancing the Seismic Resistance of Steel Moment Resisting Frames", XIII Steel and Composite Construction Conference, Coimbra, Portugal, November 25 – 26, 2021 (switched to online event due to COVID-19 pandemic).

K.6. **Lignos, D.G.** (2021). "Resilient Steel Structures for Enhanced Lifecycle Performance", Steel Week International Workshop in Switzerland, Centre Suisse de la Construction Métallique, Switzerland, October 4-7, 2021 (switched to online event due to COVID-19 pandemic).

K.7. **Lignos, D.G.** (2021). "Advancing the Seismic Performance of Steel Moment Resisting Frames through Physical Testing and Simulation", 1st Croatian Conference on Earthquake Engineering (1CroCEE), Zagreb, March 22 – 25, 2021 (switched to online event due to COVID-19 pandemic).

K.8. **Lignos, D.G.** (2020). "Collapse-Consistent Protocols for Experimental Testing of Steel Columns under Multi-axial Cyclic Loading", 8th International Conference on Advances in Experimental Structural Engineering, Christchurch, New Zealand, February 3-5, 2020 (Withdrawn due to COVID-19 pandemic).

K.9. **Lignos, D.G.** (2019). "Research on Seismic Resistant Steel and Composite Structures with Emphasis on Collapse", ETH-Zürich – Japan Joint International Symposium on Earthquake Engineering, ETH-Zürich, Zürich, Switzerland, December 2, 2019.

K.10. **Lignos, D.G.** (2018). "Building Information Modelling Guidance in Seismic Engineering", Second SteelDay2018 International Workshop in Switzerland, Centre Suisse de la Construction Métallique, Switzerland, October 10, 2018.

K.11. **Lignos, D.G.** (2018). "Data-Driven Infrastructure Risk Management", Data Science and Mobility Conference, Lausanne, Switzerland, January 31st, 2018.

K.12. **Lignos, D.G.** (2017). "Experimental and Numerical Evaluation of Steel Columns for Performance-based Seismic Assessment of Steel Moment Frames", International Workshop on Performance-Based Seismic Design of Structures, Resilience and Robustness, Shanghai, China, October 12-15, 2017.

K.13. **Lignos, D.G.** (2017). "Steel Column Behavior under Multi-Axis Cyclic Loading: Experiments, Models and Implications in Performance-Based Seismic Design", Hellenic National Conference on Steel Structures, Steel Structures Research Society (SSRS), Larissa, Greece, October 5-7, 2017.

K.14. **Lignos, D.G.** (2016). "Recent Advancements in Seismic Behavior and Nonlinear Modeling of Steel Columns for Performance-Based Earthquake Engineering", 7th Kwang-Hua Forum on Innovations and Implementations in Earthquake Engineering Research, Shanghai, China, December 9th – 11th, 2016.

K.15. **Lignos, D.G.** (2016). "Use of Seismic Isolation for Improving the Seismic Resilience of Existing Steel Structures", 1st International Workshop on Resilience, Torino, Italy, September 19th, 2016.

K.16. **Lignos, D.G.** (2016). "Effect of Composite Action on the Hysteretic Behavior of Fully-Restrained Beam-to-Column Connections under Cyclic Loading", Connections VIII International Conference, Boston, Massachusetts, USA, May 24th-26th, 2016.

K.17. **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.

K.18. **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.

Prizes, Awards and Academic Honours

2024 **"Best Paper Award in Experimental Analysis"** for the paper "Experimental Investigation and Fracture Modeling of Welded Connections with Beveled Backing Bars and Inelastic Panel zones," awarded during the 11th International Conference on the Behaviour of Steel Structures in Seismic Areas (STESSA) in Salerno, Italy.

2023 **"Best Paper Award in Material and Structure Response"** for the journal paper "Development and Experimental Validation of Dissipative Embedded Column Base Connections for Enhanced seismic Performance of Steel Moment-Resisting Frames," in ASCE Journal of Structural Engineering, March 3, 2023. For the development of a novel embedded column base connection that challenges the current paradigm in the design process of steel moment-resisting frames.

Link: https://www.asce.org/career-growth/awards-and-honors/raymond-c-reese-research-prize

2022 **"Raymond C. Reese Research Prize"** for the journal paper "Proposed Panel Zone Model for Seismic Design of Steel Moment-Resisting Frames," in ASCE Journal of Structural Engineering, January 18, 2022. For a notable achievement in research related to modeling and design of beam-to-column panel zones in seismic resistant steel moment frames.

Link: https://ascelibrary.org/jsendh/best_paper_awards

2021 **"Best Teaching Award"**, Civil Engineering Teaching Section, Faculty of Architecture, Civil and Environmental Engineering (ENAC), École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

Link: https://www.epfl.ch/education/teaching/index-html/teaching-award-for-each-section/

2020 **"ASCE Outstanding Reviewer Award"** in recognition of outstanding service as a reviewer for the American Society of Civil Engineers (ASCE) Journal of Structural Engineering (10 awards are given annually).

2019 **"Walter L. Huber Civil Engineering Research Prize"** for significant contributions in developing state of the art methods to simulate extreme limit states in steel structures. The

Walter L. Huber Civil Engineering Research Prize is considered the highest-level mid-career research prize in Civil Engineering and is only given annually by the American Society of Civil Engineers (ASCE) up to few researchers of early accomplishment across all civil engineering disciplines.

Link: https://en.wikipedia.org/wiki/Walter_L._Huber_Civil_Engineering_Research_Prize

2018 **"First Place Award"** (both Phases A and B) of the comprehensive simulation 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.

Link: https://www.atcouncil.org/atc-106-blind-contest#Winners

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.

Link: https://www.mcgill.ca/provost/academics/distinguished-professorships/wds

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, Montreal, Canada.

Link: https://www.mcgill.ca/engineering/faculty-staff/teaching-research-and-service-awards/research-awards

2014 **"ASCE Outstanding Reviewer Award"** in recognition of outstanding service as a reviewer for the American Society of Civil Engineers (ASCE) Journal of Structural Engineering (10 awards are given annually).

2013 **"ASCE State-of-the-Art of Civil Engineering Award 2013"** for the journal paper "Deterioration Modeling of Steel Components in Support of Collapse Prediction of Steel Moment Frames Under Earthquake Loading," in ASCE Journal of Structural Engineering, November 2011, for its contribution toward rationalizing collapse estimation for steel moment frames under seismic loading.

Link: https://www.asce.org/career-growth/awards-and-honors/asce-state-of-the-art-of-civil-engineering-award

2012 **"ASCE Outstanding Reviewer Award"** in recognition of outstanding service as a reviewer for the American Society of Civil Engineers (ASCE) Journal of Structural Engineering (10 awards are given annually).

2012 "**First Place Award"** of the E-Defense International Blind Analysis Simulation 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*, Montreal. Canada.

Link: https://www.mcgill.ca/engineering/faculty-staff/teaching-research-and-service-awards/teaching-awards

2009 – 2010 "**Third Place Award"** of the E-Defense Blind Analysis Simulation 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) 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 equipped with energy dissipation devices.

2008 – 2009 **"US National Science Foundation Award"** for Experimental Research in Earthquake Engineering to participate in a full scale 6-story earthquake test and damage inspection in the 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 University, Stanford, CA, USA (**First Recipient**).

2005 **"Medal and Award"** for exemplary research in the area of earthquake engineering. Awarded during 3rd International Conference on Mechanics and Solids, *Massachusetts Institute of Technology* (MIT), Cambridge, Boston, MA, USA, June 15 2005.

2005 **"John Argyris Medal"** for best Diploma Thesis in the area of Earthquake Engineering from Greek Association of Computational Mechanics. Awarded during the 5th GRACM conference on computational mechanics, Cyprus, June 14-17, 2005.

2003 - 2004 "**Graduate Fellowship"** for Master of Science, Stanford University, Stanford, CA, USA.

2003 - 2004 "**Fulbright Scholar"** to pursue graduate studies in United States of America.

1998 - 2003 **5 "Distinguished Performance Awards"** from the Technical Chamber of Greece (Ranked among the top 3 students of NTUA for 5 consequent years).

1999 - 2003 **5 "Academic 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 in Mathematics"** from National Technical University of Athens (NTUA) for exceptional performance in Mathematics during the 5 year Diploma Cycle.

Graduate Student and Research Supervision

Five (5) of my former doctoral students and two (2) of my former post-doctoral scientists have obtained faculty positions in engineering schools around the world.

Post-Doctoral and Research Scientists

Current

09/2023 - Nikolaos Skretas, PhD: University of Patras, Patras, Greece.

11/2022 - Biao Song, PhD: University of College London, London, UK.

10/2020 - Nenad Bijelic, PhD: Stanford University, Stanford, CA, USA.

Past

05/2022-03/2024 Andronikos Skiadopoulos, PhD: EPFL, Switzerland.
Next Position: Post-Doctoral Scientist, Stanford University, CA, USA.

10/2020-10/2022 Maryam Mohri, PhD: University of Tehran, Iran (co-advised with Dr. Elyas Grafoori and Dr. Christian Leinenbach, EMPA).
Next Position: Senior Researcher, Swiss Federal Laboratories for Material Science and Technology, EMPA, Dübendorf, CH.

09/2017–06/2021 Albano Antonio de Castro et Sousa, PhD: EPFL, Lausanne, CH.
Next Position: Senior Consulting Engineer, Structurame SARL, Genève & Lausanne, CH.

09/2016–07/2019 Ahmed Elkady, PhD: McGill University, Montreal, Canada.
Next Position: Assistant Professor (Lecturer), University of Southampton, UK.

03/2016-02/2017 V. Grigoriou, PhD: École Polytechnique Fédérale de Lausanne (EPFL)
Next Position: Consulting Engineer, Tsinias and Associates, Athens, Greece.

05/2015-06/2016 Ali Imanpour, PhD: École Polytechnique Montréal, Montréal, Canada
Next Position: Tenure-track Assistant Professor, University of Alberta, Canada.

Ph.D. Students

Current (3)

09/2023 - Ce Wen, EDCE Doctoral Program, EPFL "Development of Beam-to-Column Connections for Enabling Re-Use of Steel Structures in Seismic Regions" (Expected graduation date: 08.2027).

09/2023 - Tianyu Gu, EDCE Doctoral Program, EPFL "Data-Driven Point Cloud Methods for Performance Assessment of Steel Structures" (Expected graduation date: 08.2027).

02/2022 - Selimcan Ozden, EDCE Doctoral Program, EPFL "Methodological Framework for Seismic Repairs of Steel Structures by Heat Straightening" (Expected graduation date: 01.2026).

Graduated (15)

09/2019 -06/2024 Diego Isidoro Heredia Rosa, EDCE Doctoral Program, EPFL "A Softening Constitutive Law and Gradient-Inelastic Fiber-Based Element for 3-Dimensional Frame Simulations under Seismic Excitations".

Next Position: Post-Doctoral Scientist, EPFL, Switzerland.

04/2018 – 05/2022 Martina Paronesso, EDCE Doctoral Program, EPFL "Seismic Design and Behavior of Steel Braced Frame Buildings with Friction Dampers as Dissipative Floor Connectors".

Next Position: Senior Engineer, Muttoni et Fernandez Ingénieurs Conseils, SA, Switzerland.

01/2018–03/2022 Andronikos Skiadopoulos, EDCE Doctoral Program, EPFL "Welded moment connections with highly dissipative panel zones for enhanced seismic performance of steel moment resisting frames".

Next Position: Post-Doctoral Scientist, EPFL, Switzerland.

04/2017–12/2021 Hammad El Jisr, EDCE Doctoral Program, EPFL "Composite-steel beam effects on earthquake-induced collapse of composite-steel moment resisting frames".

Next Position: Senior Engineer, INGPHI, Switzerland.

09/2016-03/2021 Hiroyuki Inamasu, EDCE Doctoral Program, EPFL "Reduced-order Models for Simulating Coupled Geometric Instabilities in Steel Beam-Columns under Inelastic Cyclic Straining".
Next Position: Post-Doctoral Scientist, École Polytechnique Montréal, Canada.

01/2017-03/2021 Alexander R. Hartloper, EDCE Doctoral Program, EPFL "Reduced-order Models for Simulating Coupled Geometric Instabilities in Steel Beam-Columns under Inelastic Cyclic Straining".
Next Position: SNSF Post-doc mobility, Post-Doctoral Scientist, Imperial College London, UK.

10/2013-11/2018 Yusuke Suzuki, McGill University, Montreal, Canada "Earthquake-induced collapse of steel moment resisting frames with conventional and high-performance steel columns"
Next Position: General Manager, Research and Development, Nippon Steel Corporation, Japan.

01/2013-08/2018 Mohammad Motallebi Nasrabadi, McGill University, Montréal, Canada "Behaviour of extended shear tab connections under combined axial and shear forces", (*Co-Supervised with Prof. C.A. Rogers of McGill University*)
Next Position: Research Engineer, AECOM, Montréal, Canada.

01/2013-08/2018 Violetta Nikolaidou, McGill University, Montréal, Canada "Advancements in the seismic design of cold-formed steel structures through the investigation of diaphragm behaviour and the influence of non-structural components", (*Co-Supervised with Prof. C.A. Rogers of McGill University*)
Next Position: Consulting Engineer, ELEMA experts-conseils, Montréal, Canada.

01/2013-08/2017 Sarven Akcelyan, McGill University, Montréal, Canada "Seismic retrofit of existing steel tall buildings with supplemental damping devices"
Next Position: Assistant Professor, Kadir Has University, Turkey.

01/2013-07/2017 Seong-Hoon Hwang, McGill University, Montréal, Canada "Framework for earthquake-induced loss assessment of steel frame buildings – from building – specific to city scale approaches"
Next Position: Assistant Professor, National Institute of Technology, South Korea.

09/2011-08/2015 Ahmed Elkady, McGill University, Montréal, Canada "Collapse risk assessment of steel moment resisting frames designed with deep wide-flange columns in seismic regions"
Next Position: Post-doctoral Scientist, École Polytechnique Fédérale de Lausanne, Switzerland.

09.2011-09/2014 Ramos, Maikol, D., State University of New York, Buffalo, NY, USA "Hybrid simulation of the seismic response of a steel moment frame building structure through collapse" (*Co-supervised with Prof. Gilberto Mosqueda, University of California San Diego, formerly at State University of New York at Buffalo, NY, USA*).

Next Position: Senior Structural Engineer, KPFF, Los Angeles, California, USA.

09/2011-12/2015 Omar Ibrahim, McGill University, Montréal, Canada "Welding procedure specifications and discontinuities acceptance criteria for butt welded heavy steel sections utilizing submerged arc welding process"
Next Position: Tenure-track Assistant Professor, University of Alexandria, Alexandria, Egypt.

09/2010-10/2013 Laura Eads, Stanford University, California, USA "Seismic collapse risk assessment of buildings: Effects of intensity measure selection and computational approach" (*Co-Supervised with Prof. Eduardo Miranda of Stanford University*)
Next Position: Research Engineer, Risk Management Solutions (RMS), California, US.

Teaching Contributions

Courses Taught

EPFL, Architecture, Civil and Environmental Engineering

Bachelor program

CIVIL 238 **Structural Mechanics** (Fall 2020-2023)
Mandatory Bachelor Course (Year 2)

Master program

CIVIL 522 **Seismic Engineering** (Spring 2024-)
Elective MSc course

CIVIL 435 **Advanced Steel Design** (Spring 2016-2023)
Elective MSc course

CIVIL 468 **Dynamics of Structures** (Fall 2023-)
Mandatory MSc course

CIVIL 369 **Structural Stability** (Spring 2017 –)
Elective MSc course, Mandatory course in Doctoral School

CIVIL 438 **Nonlinear Structural Analysis** (Fall 2019) – Co-Instructor with Prof. Katrin Beyer (50%)
Elective MSc course

Doctoral School, EDCE

CIVIL 714 **Performance-Based Earthquake Engineering** (Fall 2019-)
Elective course in the EDCE Doctoral School (offered every two years)

Short Courses

06/2025 ROSE School, University of Pavia, 30-day course on "Nonlinear Analysis of Structures", Pavia, Italy.

07/2021 EPFL Summer School, MINT Lerbermatt-Köniz Gymnasium, Active Learning Module 2 "Design of a Seismic Resistant Building", in coordination with EPFL Service de Promotion de l'Education.

07/2019 EPFL Summer School, MINT Lerbermatt-Köniz Gymnasium, Active Learning Module 2 "Design of a Seismic Resistant Building", in coordination with EPFL Service de Promotion de l'Education.

06/2018 University of Naples Federico II, 5-day short course on "Earthquake-induced Collapse Risk Assessment", Naples, Italy.

07/2018 EPFL Summer School, MINT Lerbermatt-Köniz Gymnasium, Active Learning Module 2 "Design of a Seismic Resistant Building", in coordination with EPFL Service de Promotion de l'Education.

McGill University, Montréal, Canada, Department of Civil Engineering & Applied Mechanics

Bachelor program

CIVE 462 **Design of Steel Structures** (Fall 2013)
Elective Bachelor Course (Year 4)

CIVE 320 **Numerical Methods"** (Fall 2010-2015)
Mandatory Bachelor Course (Year 3)

CIVE 418 **Capstone Design Project** (Fall 2010-2014, Winter 2011-2014) – Co-instructor with Prof. Colin Rogers (50%)
Mandatory Bachelor Course (Year 4)

Master program

CIVE 612 **Earthquake-Resistant Design** (Fall 2015)
Elective MSc Course

CIVE 603 **Structural Dynamics** (Winter 2015)
Elective MSc Course

CIVE 616 **Nonlinear Analysis of Structures** (Fall 2011-2014)
Elective MSc Course

CIVE 602 **Finite Element Analysis** (Winter 2012-2014)
Elective MSc Course

MSc Student Supervision

Master Thesis - (34 students at EPFL, 10 students at McGill University)

During the last semester of their studies, MSc students at EPFL should work full time on a subject with a Civil Engineering faculty to fulfill the requirements for the Master thesis. This is a mandatory requirement for

graduation in Civil Engineering. Students may choose to conduct their thesis abroad in collaboration with another university or company. Exchange students from other universities may also choose to come at EPFL to complete their thesis.

EPFL, Architecture, Civil and Environmental Engineering

Current **(Civil Engineering Section)**

2023 Jonas Klok, "Assessment of corroded steel bridges".

2023 Ghita Najid, "Assessment of resistance models according to SIA 263 and the new Eurocode 3 for lateral torsional buckling of I-shaped bridge girders".

Graduated **(Civil Engineering Section)**

2023 Damien Balmer, "Nonlinear dynamic analysis of steel moment resisting frames with highly inelastic panel zones".

Next Position: Structural Engineer, INGHI, Lausanne, Vaud, Switzerland.

2023 Joëlle Luu, "Finite element investigation of the slotted-hidden-gap (SHG) connection for square HSS bracing members under cyclic loading".

Next Position: Structural Engineer, BG Ingénieurs Conseils, Lausanne, Vaud, Switzerland.

2022 Greta Murtas, "AISC 341-16 seismic design requirements for columns under bending and axial force in steel moment resisting frames" (in collarobation with Prof. Kanvinde, UC Davis, USA).

Next Position: Structural Engineer, Schlaich Bergermann Partner (SBP), New York, NYC, USA.

2022 Flora Mosca, "Assessment of resistance models according to SIA 263 and the new Eurocode 3 for lateral torsional buckling of I-shaped bridge girders".

Next Position: Structural Engineer, T Ingénierie, Lausanne, Vaud, Switzerland.

2022 Raphaël Guby, "Use of iron-based shape memory alloys for anchor yield column base connections" (in collaboration with Prof. Herrera, University of Chile, Chile).

Next Position: Independent Engineer, Switzerland.

2022 Jeremy Bussat, "Panel zone model for the seismic design of beam-to-column joints with hollow structural sections".

Next Position: Structural Engineer, Mawi Ingénieurs, Conseil, SA, Lausanne, Vaud Switzerland.

2022 Carmine Schipani, "Development of a python-based simulation tools library for composite-steel concrete structures".

Next Position: Independent Engineer, Switzerland.

2022 Elias Merhi, "Seismic performance of structures incorporating seismic isolation with lead-rubber bearings".

Next Position: PhD student, École Polytechnique Fédérale de Lausanne, Switzerland.

2021 Norman Gros, "Assessment of resistance models according to SIA 263 & Eurocode 3 provisions for lateral torsional buckling of I-shaped hot-rolled members".

Next Position: Structural Engineer, Verso Ingenierie, Genève, Genève, Switzerland.

2021 Nathan Kempter, "Nonlinear modeling and seismic risk assessment of composite steel moment resisting frames".

Next Position: Structural Engineer, Alberi Ingénieurs, Lausanne, Vaud, Switzerland.

2021 Beqiraj Meriton, "Finite element investigation of stability bracing force demands of steel moment resisting frame columns under cyclic loading".

Next Position: Structural Engineer, Résonance Ingénieurs-Conseils, Genève, Genève, Switzerland.

2021 Esmaeelzadeh Mohammadhossein, "Gestion intelligente des infrastructures de réseaux enterrés" (in collaboration with Virginie Desforges, SUEZ Smart Solutions).

Next Position: Project Engineer, Gruner, Lausanne, Vaud, Switzerland.

2021 Forni Ariele, "Seismic retrofitting of existing steel buildings with buckling restrained bracings".

Next Position: Project Engineer, Filippini & Partner SA, Biasca, Ticino, Switzerland.

2021 Falconi Gabriele, "Influence of residual stresses on the buckling capacity of axially loaded steel columns".

Next Position: Structural Engineer, Bridge Design Services AG, Zürich, Switzerland.

2021 Ozden Selimcan, "Experimental investigation of the cyclic properties of welds in mild structural steels". *Co-advised with Prof. Alain Nussbaumer*

Next Position: PhD student, École Polytechnique Fédérale de Lausanne (EPFL), CH.

2020 Matthey Valériane, "Seismic rehabilitation of deficient steel braced frames with conventional and innovative retrofit techniques".

Next Position: Structural Engineer, Zürich Switzerland.

2019 Gerard Güell Bartrina, "Development of numerical models for column base connections subjeted to cyclic loading".

Next Position: Risk Modeller, Swiss Re, Zürich, Switzerland.

2019 Diego Isidoro Heredia Rosa, "Experimental behaviour and nonlinear modeling of iron-based shape memory alloys (Fe-SMAs) under inelastic cyclic straining".

Next Position: PhD student, EPFL.

2019 Loris Amin Favre, "Seismic retrofit of existing steel concentrically braced frames with friction dampers".

Next Position: Civil Engineer, Petignat & Cordoba, Montreux, Vaud, Switzerland.

2019 Paolo Angelo Ferrari, "Seismic retrofit of existing steel concentrically braced frames with intentional eccentricity braces".

Next Position: Project Engineer, UTB, Geotechnik, Emch+Berger Group, Bern, Switzerland.

2018 Sacha Roger Laffely, "Seismic evaluation and retrofit of gusset plate connections through continuum finite element analysis".

Next Position: Civil Engineer, 2M Ingéniere Civile SA, Yverdon-les Bains, Switzerland.

2018 Ginette Siani Nebua, "Seismic performance evaluation and retrofit of existing steel frame buildings".

Next Position: Consultant, Weyes, Turin, Italy.

2017 Martina Paronesso, "Seismic performance and retrofitting of existing school buildings in Switzerland".

Next Position: PhD student, EPFL.

2017 Valentine Marion Sophie Declerck, "Steel frame buildings subjected to fire-following earthquakes".

Next Position: Structural Engineer, Dr. Techn. Olav Olsen AS, Oslo, Norway.

2017 Enea Luca John Beltrami, "Seismic behaviour and finite element analysis of steel frame buildings with eccentric bracings".

Next Position: Consultant, Ticino, Switzerland.

2017 Mattia Benagli, "Seismic retrofit of deficient steel braced frames".

Next Position: Civil Engineer, Bolliger & Mabillard, Vallais, Switzerland.

2017 Leeroy Grosch, "Performance evaluation of existing schools buildings in Switzerland for induced seismicity".

Next Position: Civil Engineer, edms SA, Geneva, Switzerland.

2017 Michaël Thierry Joël Denis König, "Seismic performance of column base connections in steel industrial buildings". (*in collaboration with Prof. Ricardo Herrera, University of Chile, Chile*).

Next Position: Civil Engineer, T Ingénierie SA, Geneva, Switzerland.

2017 Kox Claire Simone, "Seismic performance of steel moment resisting frames with pre-qualified European beam-to-column joints" (*in collaboration with Prof. Mario D'Aniello, University of Naples Federico II, Naples, Italy*).

Next Position: Structural Engineer, WMM Ingenieure, Münchenstein, BL.

2017 Previero Jean-Paul, "Building information modeling of steel industrial buildings in seismic regions".

Next Position: MSc Student, University of California Los Angeles, California, USA.

2017 Vivant Joséphine Marie Françoise, "Lateral torsional buckling behavior of I-shaped columns in steel moment resisting frames through finite element analysis".

Next Position: Project Engineer, Gruner Gruppe, Zürich, Switzerland.

McGill University, Department of Civil Engineering and Applied Mechanics

2017 Aikaterini Mousteraki, "Retrofit of critical facilities with the use of seismic isolation including pounding phenomena".

Next Position: Structural Engineer, Crete, Greece.

2016 Julien Cravero, "Experimental evaluation of steel wide flange columns in moment resistingframes under high axial load and lateral drift demands".

Next Position: Doctoral Student, École Nationale des Ponts et Chaussées, Paris, France.

2016 Alexander R. Hartloper, "Updates of the ASCE-41-13 nonlinear modeling provisions for performance-based seismic assessment of new and existing steel moment-resisting frames".

Next Position: Doctoral Student, École Polytechnique Fédérale de Lausanne, Switzerland.

2015 Samantha Walker, "Seismic retrofit of a 1960s, nine-storey, steel-frame hospital building using triple friction pendulum seismic isolation".

Next Position: Structural Engineer, Skidmore, Owings & Merrill (SOM), San Francisco, California, USA.

2015 Nathan Goldstein, "Testing of extended shear tab and coped beam-ot-girder connections subjected to shear loading".

Next Position: Senior Consultant, EY, Toronto, Canada

2014 Jacob Hertz, "Testing of extended shear tab connections ssubjected to shear".

Next Position: Structural Engineer, Cleland Jardine Engineering Limited, Kanata, Ontario, Canada.

2013 Nasser Al-Shawwa, "Rapid estimation of earthquake damage on instrumented steel frame buildings using simplified tools: Towards "city-scale" building simulation.

Next Position: Research Engineer, ARUP Development Group, Consulting Engineers, London, United Kingdom.

2013 Emre Karamanci, "Collapse assessment and performance-based evaluation techniques for concentrically braced frames designed in seismic regions".

Next Position: Structural Engineer, DPHV Structural Consultants, Montreal Canada.

2013 Sammy Al. Bardaweel, "Indicators for sustainable design of civil engineering systems: Towards earthquake resilient steel frame buildings through loss assessment".

Next Position: Structural Engineer, The Lane Construction Corporation, Waco, Texas, United States.

2013 Violetta Nikolaidou, "Finite element modeling and evaluation of welding procedures in high strength (450MPa) W-shape column assemblies".

Next Position: PhD Student, McGill University, Montreal, Canada.

Interns / external visiting students

2020 – 2021 Kusum Shrestha, "Development of an experimental database on extended end plate connections for seismic applications", University of Kathmandu, Nepal.

Next Position: Masters Student, Leibniz University, Hannover, Germany.

2019 – 2020 Nitesh Karmacharya, "Assessment of corroded steel bridges in Europe", University of Kathmandu, Nepal.

Next Position: Masters Student, University of Luxembourg, Luxembourg.

2018 – 2019 Bikram Oli, "Column base connections for seismic applications", University of Kathmandu, Nepal.

Next Position: Masters Student, University of Luxembourg, Luxembourg.

2018 – 2019 Cesar Ramirez, "Development and Experimental Evaluation of a Friction Damper for Seismic Applications", University of Texas at El Paso, TX, USA.

Next Position: Masters Student, University of Texas, Austin, TX, USA.

2017 – 2018 Subash Ghimire, "Fragility assessment of steel columns for earthquake-induced loss assessment", University of Kathmandu, Nepal.

Next Position: Masters Student, University of Grenoble, Auvergne-Rhone-Alpes, France.

2017 – 2018 Mojtaba Farahi, "Experimental evaluation of concrete filled double skin tubular beam-columns", Monash University, Australia.

Next Position: Post-doctoral scientist, University of College London, UK.

Funding Record (Sponsored Research Projects)

EPFL: (Total Individual Funding Generated for RESSLab since 01/2016: ~ CHF 3'301'848)

McGill: (Total Individual Funding Generated from 06/2010 to 12/2015: ~ CAD 1'846'019)

Individual Grants (CHF 2'597'020)

2022 – present **P1**: **"Reliability of distance-heating welded steel-concrete piping networks with non-conformities",** ***Award CHF 417,000***: Services Industriels de Genève (SIG), D.G. Lignos (principal).

2022 – 2024 **P2: Machine Learning Support System for Performance Assessment of Steel Structures under Extreme Operating Conditions and Management of Risk (ML-SPOCK),** ***Award CHF 254,400*****:** Suisse Data Science Center (SDSC), Collaborative Data Science Projects, Fifth Call for Projects, D.G. Lignos **(principal)**.

2021 – 2022 **P3: Digital Resources for Instruction and Learning (DRIL),** ***Award CHF 30,000*****:** Digital Tools for Structural Mechanics and Visualization of Experiments and Failure Surfaces, D.G. Lignos **(principal)**.

2021 – 2022 **P4: Suisse National Science Foundation (SNSF) – Scientific Exchanges,** ***Award CHF***

***19,500*:** Benchmarking Nonlinear Inverse Problems for Collapse Simulation of Structures, D.G. Lignos **(principal)**.

2021 – 2023 **P5: H2020-MSCA (European Commission), *Award CHF 210,264*:** Recentering Friction Floor Dissipater for Resilient-based Design of Steel Structures, D.G. Lignos (**Coordinator**).

2019 – 2022 **P6: Collaborative Industry Grant (Nippon Steel Corporation, Japan), *Award CHF 165,875*:** "Development of Next-Generation Fully-Restrained Beam-to-Column Connections with High Performance Steel", **D.G. Lignos (principal)**.

2019 – 2023 **P7: Suisse National Science Foundation (SNSF), *Award CHF 565,037*:** Reduced-Basis Nonlinear Models for Simulating Synergistic Geometric Instabilities in Metal Structures under Extreme Loading, D.G. Lignos **(principal)**.

2019 – 2020 **P8: Suisse National Science Foundation (SNSF) - Spark, *Award CHF 98,818*:** Machine Learning Framework for Performance-based Design of Infrastructure Assets, D.G. Lignos **(principal)**.

2017 – 2021 **P9: Suisse National Science Foundation (SNSF), *Award CHF 150,000*:** "Controller for Geographically Distributed Hybrid Testing & Simulation Across Scales", D.G. Lignos **(principal)**.

2017 – 2019 **P10: ENAC Internal Equipment Grants (ENAC), *Award CHF 150,000***: "Digital and Servo hydraulic Control for Multi-Physics Hybrid Simulation", D.G. Lignos **(principal)**.

2016 – 2020 **P11: Suisse 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 **P12: Collaborative Industry Grant (CFF, SA), *Award CHF 98,290*:** "Testing of Connection Details for Rehabilitation of Existing Steel Bridges", D.G. Lignos **(principal)**.

Collaboration Grants: (RESSLab Portion CHF 704'828)

2023 – present **P13: EPFL / ENAC Flagship Project Grant, *Award CHF 400,000*:** LASTING: Methodological framework for enabling re-use of steel structures after extreme Loading", D.G. Lignos (Coordinator), O. Fink (Coordinator).

2022 – present **P14: ENAC Cluster Multidisciplinary Grant, *Award CHF 200,000*:** Intelligent Systems for Automated Inspection of Steel Infrastructure, D.G. Lignos (Coordinator), A. Martinoli (Coordinator).

2020 – 2022 **P15: ENAC Cluster Multidisciplinary Grant, *Award CHF 70,000*:** Intelligent Digital Twins for Assessment and Predicting Bridge Road Traffic Demands, D.G. Lignos (Coordinator), M.Bierlaire (Coordinator), B.Cache (Coordinator).

2021 – 2023 **P16: H2020-MSCA (European Commission), *Award CHF 205,000*:** Enhanced Iron-based Shape Memory Alloys for Seismic Resilience of Civil Infrastructure, Elyas Ghafouri, EMPA (Coordinator), Christian Leinenbach, EMPA (Coordinator), D.G. Lignos, EPFL (Coordinator).

2018 – 2019 **P17: H2020-SERA Framework Programme for Research and Innovation (European Commission), *Award CHF 84,000*:** NSFuse: Ductile Steel Fuses for the Protection of Critical Nonstructural components, D.G. Lignos (co-PI), D.Vamvatsikos (co-PI).

2016 – 2018 **P18: Office de la Conféderation, *Award CHF 212'323***: "Strength upgrading of Metallic Bridge Connections using Pre-Stressed CFRP Laminates and iron-Based Shape Memory Alloys" M.Motavalli (co-PI), D.G. Lignos (co-PI).

2016 – 2017 **P19: ENAC Exploratory Grant (ENAC), *Award CHF 25,000***: "Development of High-Performance Steel Materials to Mitigate Natural Hazards", D.G. Lignos **(**co-PI**)**, J-F. Molinari **(**co-PI**)**.

2016 – 2020 **P20: Natural Sciences and Engineering Research Council of Canada (NSERC) – International Collaborative Research and Development (CRD), *Award CHF 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).

McGill University, Montreal, Canada (Total Funding Generated: CAD 1'846'019)

Personal Grants (CAD 1'084'888)

2013 – 2017 **P21: 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)**.

2015 – 2016 **P22: FQRNT University of Sherbrooke, *Award $20,000*:** "Scholarship Program for Multi-hazard Mitigation", **D.G. Lignos (principal)**.

2015 – 2016 **P23: 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)** (equipment).

2013 – 2015 **P24: 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)** (equipment).

2013 – 2015 **P25: 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 **P26: 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 – 2016 **P27: Canadian Foundation for Innovation (CFI), *Award $200,000:*** "A Laboratory for Seismic Risk Mitigation of Critical Infrastructure", **D.G. Lignos (principal)** (equipment).

2012 – 2016 **P28: 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 **P29: 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", **D.G. Lignos** (**Principal**).

2012 – 2014 **P30: 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 **P31: Steel Structures Education Foundation (SSEF), *Award $17,000:*** "Dynamic Stability of Steel Columns Subjected to Seismic Loading', **D.G. Lignos (principal)**.

2012 – 2014 **P32: 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)**.

Collaborative Grants (CAD 761'131)

2013 – 2018 **P33: 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.

2014 – 2017 **P34: 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 **P35: 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 **P36: 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).

2012 – 2015 **P37: FQRNT Projet de Recherche en Equipe, *Award $178,500*:** "Fast Post-Earthquake Functionality Assessment of Critical Infrastructure in Canada", **D.G. Lignos (principal)**, I. Psaromiligkos.

2012 – 2013 **P38: 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 **P39: 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 **P40: 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.

Innovation, Technology Transfer and Patents

2023: EU Patent No: EP23179922.2, European Patent Office Skiadopoulos, A., Hiroshima, S., Arita, M., Suzuki, Y., Kitaoka, S., and Lignos, D.G. "Beam-to-column joint structure" (related to Project 6): This project led to the development of a new welded beam-to-column joint that defies the current paradigm in pre-qualified connections and enables the utilization of inelastic panel zones along with simplified weld details both of which minimize structural repairs in the aftermath of earthquakes and reduce fabrication costs in steel construction.

2023: RESSLab Hub: Open-access databases and models for design and assessment of steel structures: Developed a series of tools, which were made publicly available to facilitate nonlinear modeling of steel materials and elements, fragility functions as well as fully searchable databases. Steel Educators, Structural Engineers and Researchers can use these tools. The structural performance databases are publically available from the following webpage: https://resslab-hub.epfl.ch/.

2021: "Dataset on Full-Scale Collapse Experiments of a Composite-Steel Moment Resisting Frame" (related to Projects P5 and P9 see also later Figures 6a and b): This project, which has been funded by the Suisse National Science Foundation comprises a large-scale experimental dataset (over 1 TB) that has been collected by a landmark physical experiment that was conducted by RESSLab at the Structures Laboratory (GIS) at EPFL. The experiment featured a full-scale sub-system of a 2-bay 10-meter-long composite steel moment resisting frame that was tested through complete collapse (global structural instability) under extreme earthquake loading. Sensing data featured at least 400 channels of

conventional instrumentation, specialized sensing, such as fiber optic cables for continuous strain measurements over the composite slab, as well as digital image correlation systems that enable for the first time the systematic documentation of both the local as well as global response of the tested system from the onset of damage through collapse. This dataset is among the largest ones in earthquake engineering that document quantitatively the way redistributions occurring within a structural system prior to structural collapse due to earthquakes. Because of the ongoing efforts to process the acquired data, the dataset, including the comprehensive documentation for its further use, will be made publicly available through Zenodo by early 2022.

2020: EaRL, Version 1.0: "Software for Earthquake Risk, Loss and Lifecycle Assessment": EaRL is an interactive and user-friendly open-source software for evaluating the consequences of natural hazards on the built environment and communities, in support of performance-based earthquake engineering. The software platform is suitable to assist stakeholders, (re-) insurers and building owners to take informed design/retrofit decisions to mitigate the impact of earthquake hazard on our built infrastructure and potentially optimize the seismic lifecycle performance of infrastructure assets. The project was funded by the Suisse National Science Foundation (SNSF) program, SPARK. Being an open-source software, EaRL notably paves the way for researchers and practicing engineers worldwide to collaborate and contribute to its metadata, functionalities and interactive features. The software's well-documented technical details and codebase will hopefully stimulate further developments in support of performance-based design. The full technical manual is available in the software GitHub repository, including illustrative step-by-step examples.

Video tutorials available from: https://www.youtube.com/playlist?list=PLz_XdUL-6Y_nbmyXU7Pcdg_XDwvwgGXjF.

Source code: publicly available from GitHub: https://github.com/amaelkady/EaRL .

2020: "Development of New Constitutive Model for Inelastic Cyclic Plasticity", This project is funded by the Suisse National Science Foundation (SNSF). The results of the project entail a new constitutive material model for structural steels to simulate their behavior under inelastic cyclic straining. The source code along with instructions on how it could be linked to commercial finite element software is publicly available through GitHub: https://github.com/ahartloper/UVC_MatMod .

2019: "Inelastic Panel Zone Database", This R&D project is funded by Nippon Steel Corporation. Part of the project involves the development of a database for improving the mathematic modeling of beam-to-column web panel zones in buildings exhibiting inelastic deformations during earthquakes. The database serves for the validation of multi-fidelity finite element models as well as the development of new ones. The database has been made publicly available to the engineering and research communities. The data is publicly available from Zenodo.

Zenodo: https://zenodo.org/record/3689756#.YIkuxH0zaDU

2018: "Steel Columns under Multi-axis Cyclic Loading" This project was funded by the Suisse National Science Foundation, the Natural Science and Engineering Research Council of Canada, and Nippon Steel Corporation in Japan. The results of the project comprise a comprehensive dataset of steel columns made of standardized cross-sectional shapes (i.e., hollow and wide-flange or H-shaped) that facilitate the development of numerical models to simulate the complex nonlinear hysteretic response of these members under highly inelastic cyclic loading. The dataset has also been used in multi-institutional concerted efforts to improve practical aspects of seismic design principles, which have been articulated both in the upcoming European seismic provisions (i.e., Eurocode 8, Part 1-2) as well as the North American standards (i.e., CSA S19, ASCE 41). The data is publicly available from Zenodo and Github from the following links:

Zenodo: https://zenodo.org/record/3977395#.YS9AZNMzaWa
GitHub: https://github.com/amaelkady/Steel-Columns-Test-Data

2018: IIDAP, Version 1.0: "Interactive Interface for Incremental Dynamic Analysis Procedure", Nonlinear dynamic analysis software that includes all recent deterioration models for earthquake simulations. A user can conduct incremental dynamic analysis for single degree-of-freedom (SDF) systems utilizing different sets of ground motions and alternative state-of–the-art scaling techniques.

Moreover, the software can develop fragility functions for different damage states, given a hazard level. Publicly available from the following webpage:

RESSLabTools: https://resslab.epfl.ch/RESSLab-tools

Currently used from graduate students at Stanford University, USA 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)

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

CIVE 616: "Nonlinear Structural Analysis for Buildings"

CIVE 603: "Structural Dynamics"

Discipline-Related Service & Consulting Activities

National and International Committees of Experts

2022-2023	Applied Technology Council, NEHRP Consultants Joint Venture, Member, Technical Committee, ATC-154-Task Order 2, *"Improving Perofmrnace of Buildings in Very High-Seismic Regions"*, activities of this committee are funded by the Federal Emergency Management Agency (FEMA), Washington, DC, USA.
2021-present	Technical Group Leader of the Canadian Standards Association CSA S16 Steel Structures for Buildings for the revision of the seismic provisions for steel moment-resisting frames.
2021-present	Convenor of the European Committee Standardization for CEN/TS for the development of the European Technical Specification "Characterisation and Qualification of Structural Components for Seismic Applications by Means of Cyclic Tests", for the development of the 2nd Generation of EN Eurocodes.
2018-present	Associate Member of Standards Committee for the next revision (2022 Revision) of the ASCE 41, USA Standard "Seismic Evaluation and Retrofitting of Existing Buildings", American Society of Civil Engineers (ASCE), Codes and Standards Activities Division of the Structural Engineering Institute (SEI).
2017-present	Project Team Member of the European Committee Standardization for M/515 Phase 2 for the development of Clause 9 of Eurocode 8 Part 3 for "Seismic Assessment and Retrofitting of Existing Steel Structures", for the development of the 2nd Generation of EN Eurocodes.
2017-present	Project Team Member of the European Committee Standardization for M/515 Phase 2 tasks of Eurocode 8 Part 1-2 (Seismic Provisions for Steel and Composite-Steel Concrete 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.
2016-2019	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).
2015-2018	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.

2013-2019 Member of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers Technical Activities Division, Disaster Resilience of Structures Committee.

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.

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 from 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 the 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 Member of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers Technical Activities Division, Seismic Effects Committee.

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), USA.

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), USA.

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), *Member*

American Institute of Steel Construction (AISC), *Individual Member*

Earthquake Engineering Research Institute (EERI), *Individual Member*

Hellenic Society of Civil Engineers, *Individual Member*

Organization of International Conferences, Workshops, Special Sessions

2023 — 18th World Conference on Earthquake Engineering (WCEE2024), organized conference special sessions (Seismic Behaviour, Design and Evaluation of Steel Structures; Advancements in Experimental Earthquake Engineering), Milan, Italy, June 30-July 5, 2023.

2021 — Earthquake Engineering Research Institute (EERI) Annual Meeting, Adapting to Change, Amplifying Resilience, organized a special session on "Small Data Approaches in Earthquake Engineering", March 23-25, 2021 (switched to online event due to COVID-19 pandemic).

2020 — 17th World Conference on Earthquake Engineering (17WCE), organized three conference special sessions (Advances in Performance-based Earthquake Engineering, Seismic Behaviour, Design and Evaluation of Steel Structures), Sendai, Japan, September 27-October 2, 2021 (postponed due to the COVID-19 pandemic).

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

2018 — 11th National Conference on Earthquake Engineering (NCEE), June 25-29, 2018, Los Angeles, California; organized 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; organized 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; organized a 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. Organized a conference session on "Collapse Risk Assessment of Structures".

2017 — 16th World Conference on Earthquake Engineering (WCEE), January 9th-13th, Santiago, Chile. Organized 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; organized 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, Creta, 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; organized 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".

Editorial Duties

Journals

2020 Guest Editor, ASCE Journal of Structural Engineering, Data Papers in Structural Engineering: A new submission category.

2019 – present Earthquake Engineering & Structural Dynamics, Editorial Board.

2019 – present Associate Editor, Frontiers of Built Environment, Computational Mechanics.

2019 – present Associate Editor, Earthquake Spectra, Metal Structures and Seismic Effects.

2015 – present Associate Editor, ASCE Journal of Structural Engineering, 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 – 2017 Editorial Board, International Journal of Earthquakes and Structures (EAS).

2013 – 2015 Special Editor for Aseismic Design, Encyclopaedia of Earthquake Engineering, Springer.

2013 – 2014 3rd Specialty Conference on Disaster Prevention and Mitigation, Proceedings, Annual Conference of Canadian Society for Civil Engineering (CSCE), Montreal, Quebec, Canada.

Conferences

2024 Member of International Scientific Committee, The 17th International Conference on the Seismic Behaviour of Steel Structures in Seismic Areas, Salerno, Italy, July 8-10, 2023.

2024 Member of Scientific Committee, 18th World Conference on Earthquake Engineering (WCEE2024), Milan, Italy, June 30-July 5, 2023.

2023 Member of Scientific Committee, Eurosteel, Amsterdam, Holland, September 12-15, 2023.

2022 Member of International Scientific Committee, The 10th International Conference on the Seismic Behaviour of Steel Structures in Seismic Areas, Timisoara, Romania, May 25-27, 2022.

2021 Member of Scientific Committee, International Conference on National Hazards and Infrastructure (ICONHIC), Athens, Greece, June 22-24, 2021 (postponed to June 2022 due to the pandemic).

2020 Member of Scientific Committee, 17th World Conference on Earthquake Engineering (17WCEE), Sendai, Japan, September 27-October 2, 2021.

2019 Member of International Scientific Committee, The 9th International Conference on the Seismic Behaviour of Steel Structures in Seismic Areas, Christchurch, New Zealand, February 14-17 2018.

2019 Member of Scientific Committee, 12th Canadian Conference on Earthquake Engineering (12CCEE), June 17-20, 2019, Québec, Canada.

2018 Member of Scientific Committee, 11th National Conference on Earthquake Engineering (NCEE), June 25-29, 2018, Los Angeles, California.

2018 Member of Scientific Committee, 16th European Conference on Earthquake Engineering (ECEE), June 15-21, 2018, Thessaloniki, Greece.

2017 Member of Scientific Committee, International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN17, Rhodes, Greece, June 15-17, 2017.

2017 Member of Scientific Committee, 16th World Conference on Earthquake Engineering (WCEE), January 9th-13th, Santiago, Chile.

2016 Member of Scientific Committee: National Conference of Steel Structures, 5th-7th October 2017, Larissa, Greece.

2015 Member of Scientific Committee, International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN15, Creta, Greece, May 25th-27th, 2015.

2015 Member of Scientific Committee, Annual Conference, of Canadian Society of Civil Engineers, May 27th-30th, 2015, Regina, Saskatchewan, Canada.

2014 Member of Scientific Committee, 10th National Conference on Earthquake Engineering (NCEE), July 21-25, 2014, Anchorage, Alaska.

2013 Member of Scientific Committee, 11th International Conference on Structural Safety and Reliability (ICOSSAR 2013), Columbia University, New York, NY, June 16th-20th, 2013.

2013 Member of Scientific Committee: National Conference of Steel Structures, 2nd-4th October 2014, Tripoli, Greece.

2012 Member of Scientific Committee: Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013 (VEESD 2013), 28-30th August 2013, Vienna, Austria.

2012 Member of Scientific Committee, 15th World Conference in Earthquake Engineering (15WCEE), Lisbon, Portugal, September 24th-28th, 2012.

2011 Member of Scientific Committee, International Conference in Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN11, Corfu, Greece, May 26th-28th, 2011.

2010 9th US National and 10th Canadian Conference on Earthquake Engineering, Reaching Beyond Borders, Toronto, Canada, July 25-29, 2010.

Peer-Review Duties

(Reviewing approximately 40 journal papers and 20 conference papers per year)

International Journals (20)

ASCE Journal of Structural Engineering, Earthquake Engineering & Structural Dynamics, Canadian Journal of Civil Engineering, ASCE Journal of Bridge Engineering, ASCE Journal of Engineering Mechanics, 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, Journal of Constructional Steel Research, Frontiers, Steel

and Composite Structures, Design of Tall and Special Buildings, International Journal of Steel Structures, Journal of Earthquake Engineering, Construction and. Building Materials.

Proposal Reviews for Funding Organizations (9)

2021-present French National Research Agency (ANR)

2018-present Swiss NSF Engineering Division, Switzerland

2016-present Ministry of Science and Technology, Chile

2016-present International Laboratory for Research in Earthquake Engineering (ILEE), China

2016-present National Science Foundation, USA

2013-present National Sciences and Engineering Research Council of Canada (NSERC)

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

Administrative Roles

EPFL and ETH Domain Service Activities

2021 - Director, Institute of Civil Engineering (IIC), ENAC, EPFL (formally appointed, appointment effective from 09/2021 to 08/2025).

2021 - Commission d'évaluation – PostDoc-Mobility, Swiss National Science Foundation.

2021 - Search Committee for EPFL Faculty Position "Structural Engineering and Design", Civil Engineering Institute (IIC), ENAC, EPFL (Chair of the committee).

2021 - Search Committee for EPFL Faculty Position "Architectural Design and Housing", Institute of Architecture (IA), ENAC, EPFL (Member).

2021 - Teaching Evaluation Committee for Assessment of Teaching Needs for EPFL Faculty Position "Human Centric Transportation", Civil Engineering Institute, ENAC (Member).

2021 - Search Committee for EPFL Faculty Position "Sustainable Civil Engineering", Civil Engineering Institute, ENAC (Chair of the committee).

2021 - Teaching Evaluation Committee for Assessment of Teaching Needs for EPFL Faculty Position "Digital Infrastructure", Civil Engineering Institute, ENAC (Member).

2021 - Search Committee for EPFL Faculty Position "Digital Infrastructure", Civil Engineering Institute, ENAC (Member).

2020 - EPFL Research Commission, Panel II SNSF Evaluation (Vice Chair).

2020 - ETH Domain Task Force, Portfolio Analysis/Competency Map, Subgroup D: Natural Hazards, Extreme Events and Ensuing Risks, for the further development of the planned new research institute of "Environment and Sustainability" (EPFL Delegate, Responsible of Subgroup D).

2019 - Teaching Committee at Civil Engineering Section (Commission d'Enseignement- Section du Génie Civil), Responsible for Structures and Materials Division.

2019 - Search Committee for EPFL Faculty Position "Digital Infrastructure", Civil Engineering Institute, ENAC (Member).

2019 - Search Committee for EPFL Faculty Position "Hydraulic Structures", Civil Engineering Institute, ENAC (Member).

2018 - EPFL Research Commission, Official Body of the Swiss National Science Foundation (SNSF).

2017-present Member, EDCE Civil and Environmental Engineering, Doctoral Program Committee, Department of Architecture, Civil and Environmental Engineering.

2016-2017 Propédeutique Study Advisor, Civil Engineering Teaching Section.

McGill University Service Activities

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, McGill University.

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.