

PAOLO M. CALVI

Curriculum Vitae

Department of civil and Environmental Engineering
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Seattle, WA 98195

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EDUCATIONAL HISTORY

University of Toronto, Toronto, ON, Canada

Ph.D., Civil Engineering

June, 2015

Dissertation Title: A Theory for the Shear Behaviour of Cracks Providing a Basis for the Assessment of Cracked Reinforced Concrete Structures

Primary advisor: Professor Michael P. Collins

University of Pavia, Pavia, Italy

M.Sc., Civil Engineering

July, 2010

Thesis Title: Towards Improved Acceleration Floor Spectra for Seismic Design

Primary advisor: Professor Timothy J. Sullivan

University California San Diego (UCSD), San Diego, CA, USA

Visiting Student, Department of Structural Engineering

March 2008 – June 2008

University of Pavia, Pavia, Italy

B.Eng., Civil Engineering

December 2008

Undergraduate Dissertation Title: Toward a Novel Approach for Damage Identification and Health Monitoring of Bridge Structures

Primary advisor: Professor Paolo Venini

EMPLOYMENT HISTORY

University of Washington

Seattle, WA, USA

Associate Professor, Department of Civil and Environmental Engineering, Sept. 2021 – Present

Abilitazione Scientifica Nazionale (ASN) a professore di II fascia in Tecnica delle Costruzioni – National Academic Qualification as Associate Professor (Italy), September 2018

University of Washington

Seattle, WA, USA

Assistant Professor, Department of Civil and Environmental Engineering, Sept. 2015 – Sept. 2021

University at Buffalo (SUNY)

Buffalo, NY, USA

Visiting Researcher, Department of Civil, Structural and Environmental Engineering, Sept. 2014 – June 2015

European Centre for Training and Research in Earthquake Engineering (EUCENTRE)
Pavia, Italy
Researcher, March 2015 – September 2015

University of Toronto
Toronto, ON, Canada
Graduate Research Assistant, Department of Civil and Environmental Engineering, Sept. 2010 – June 2015

University of Toronto
Toronto, ON, Canada
Teaching Assistant, Department of Civil and Environmental Engineering, Sept. 2010 – December 2014

AWARDS AND HONORS

Charles Z. Zollman Award, 2021. Precast/Prestressed Concrete Institute. (For PCI Journal paper with most “contribution in advancing the state-of-the-art of precast and prestressed concrete.”)

IABSE 2020 Outstanding Paper Award (Scientific Paper).

Doctoral Completion Award (\$3000 CAD), 2015, University of Toronto

Nominee for the 2015 fib Achievement Award for Young Engineers (AAYE).

School of Graduate Studies Conference Grant, 2014, University of Toronto

Graduate Fellowship, 2010 – 2014, University of Toronto

Teaching Assistantship, 2010 – 2014, University of Toronto

Research Assistantship, 2010 – 2015, University of Toronto

AFFILIATIONS AND OTHER APPOINTMENTS

Scuola Superiore Meridionale
Naples, Italy
Affiliate Faculty, Modeling and Engineering Risk and Complexity Department, May. 2020 – Present

PUBLICATIONS

¹ Graduate students advised or co-advised by Calvi

² Post-doc advised or co-advised by Calvi

IF: journal impact factor reported by journal as of May 27, 2022

GS: Google Scholar citations as of May 27, 2022

Total GS citations as of May 27, 2022: 898

GS h-index as of May 27, 2022: 13

GS i10-index as of May 27, 2022: 19

Refereed archival journal publications

1. G. Rebecchi, P.M. Calvi, A. Bussini, D. Bolognini, L. Grotoli, Stefano Cii, Matteo Rosti, Francesco Ripamonti “Full-scale shake table tests of a reinforced concrete building equipped with a novel servo-hydraulic active mass damper”, *Journal of Earthquake Engineering*. *Accepted for publication*. (IF: 2.779)
2. M. Rosti, S. Cii, A. Bussini, P.M. Calvi, F. Ripamonti “Design and Validation of a Hardware-In-the-Loop Test Bench for Evaluating the Performance of an Active Mass Damper”, *Journal of Vibration and Control*. *Accepted for publication*. (IF: 3.095)
3. N. Scattarreggia¹, W. Galik¹, P.M. Calvi, M. Moratti, A. Orgnoli¹, R. Pinho “Relevance of deck structural details assumptions on the forensic analysis of a collapsed cable-stayed bridge”, *Engineering Structures*. *In press*. (IF: 2.528)
4. J. Stanton, P.M. Calvi “A Model for Stud Groups Subjected to Shear and Bending”, *Engineering Structures*, 260 (2022) 114182. (IF: 2.528)
5. P.M. Calvi, S. Ahn¹, D. Lehman (2022). “Shear Capacity of Cold Joints with Conventional and High-Strength Reinforcement”, *ACI Structural Journal*. *In press*. (IF: 1.287)
6. D. Voytko¹, P.M. Calvi, J. Stanton (2022). “Shear Strength of Ultra High-Performance Concrete”, *Engineering Structures*, Volume 255, 113961. (IF: 2.528)
7. A. Albright¹, A. Argentoni, P.M. Calvi (2022). “Experimental Behavior of Interior and Exterior Steel-Concrete Composite NPS® Beam-Column Joints”, *Engineering Structures*, Volume 251, Part B, 113589. (IF: 2.528)
8. E. Bruschi¹, V. Quaglini, P.M. Calvi (2022). “A simplified design procedure for seismic upgrade of frame structures equipped with hysteretic dampers”, *Engineering Structures*, Volume 251, Part A, 113504. (IF: 2.528)
9. T.J. Peruchini¹, J. Stanton, P.M. Calvi (2021). “Longitudinal Joints between Deck Bulb Tee Girders Made with Non-proprietary UHPC”, *ASCE Bridge Journal*, Volume 26, Issue 12. (IF: 1.065)
10. E. Bruschi¹, P.M. Calvi, V. Quaglini (2021). “Concentrated plasticity modelling of RC frames in time-history analyses”, *Engineering Structures*, Volume 243, 15 September 2021, 112716. (IF: 2.528, GS: 1 citations)
11. M. Furinghetti, T. Yang¹, P.M. Calvi, A. Pavese (2021). “Experimental Evaluation of Extra-Design Displacement Capacity for Curved Surface Slider Devices”, *Soil Dynamics and Earthquake Engineering*, Volume 146, July 2021, 106752. (IF: 2.723, GS: 4 citations)
12. L. Aragaw¹, P.M. Calvi (2021). “Earthquake-Induced Floor Accelerations in Rocking RC Shear Wall Structures”, *Journal of Earthquake Engineering*, 25(5), pp. 941–969. DOI: 10.1080/13632469.2018.1548393. (IF: 2.754, GS: 5 citations)

13. S. Timsina¹, P.M. Calvi (2021). “Variable Friction Base Isolation Systems: Seismic Performance and Preliminary Design”, *Journal of Earthquake Engineering*, Volume 25, Issue 1, pp. 93–116. DOI: 10.1080/13632469.2018.1504837. (IF: 2.754, GS: 8 citations)
14. T. Yang¹, S. Bergquist¹, P.M. Calvi, R. Wiebe (2021). “Improving Seismic Performance Using Adaptive Variable Friction Systems”, *Engineering Structures*, Vol. 140, January 2021, 106442. (IF: 2.528, GS: 1 citations)
15. T. Yang¹, N.A. Marafi, P.M. Calvi, R. Wiebe, M.O. Eberhard, J.W. Berman (2020). “Accounting for Spectral Shape in a Simplified Method of Analyzing Friction Pendulum Systems”, *Engineering Structures*, Volume 222, 1 November 2020, 111002. (IF: 2.528, GS: 3 citations)
16. O. Davadoorj¹, P.M. Calvi, J. Stanton (2020). “Experimental Response of Headed Stud Connections Subjected to Combined Shear and Bending Actions”, *PCI Journal*, Volume 65, No 5, September-October 2020 Issue. (IF: 1.100)
17. O. Davadoorj¹, P.M. Calvi, J. Stanton (2020). “Shear Stress Transfer across Concrete-to-Concrete Interfaces: Experimental Evidence and Available Strength Models”, *PCI Journal*, Volume 64, No 4, July-August 2020. (IF: 1.100, GS: 4 citations)
18. R. Davoudi, G.R. Miller, P.M. Calvi, J.N. Kutz (2020). “Computer Vision-Based Damage and Stress State Estimation for Reinforced Concrete and Steel Fiber-Reinforced Concrete Panels”, *Structural Health Monitoring Journal*, Volume 19, Issue 6. DOI: 10.1177/1475921719892345. (IF: 4.939, GS: 4 citations)
19. H. Zhang¹, P.M. Calvi, D. Lehman, K. Kuder, C. Roeder (2020). “Response of Recycled Coarse Aggregate Concrete Subjected to Pure Shear”, *ASCE Journal of Structural Engineering*, DOI 10.1061/(ASCE)ST.1943-541X.0002620. (IF: 2.021)
20. T. Yang¹, P.M. Calvi, R. Wiebe (2020). “Numerical Implementation of Variable Friction Sliding Base Isolators and Preliminary Experimental Results”, *Earthquake Spectra*, Volume 36, Issue 2. DOI 10.1177/8755293019891721. (IF: 2.900, GS: 8 citations)
21. L.F. Aragaw¹, P.M. Calvi (2020). “Comparing the Performance of Traditional Shear-Wall and Rocking Shear-Wall Structures Designed using the Direct-Displacement Based Design Approach”, *Bulletin of Earthquake Engineering*, Volume 18, pp. 1345–1369. <https://doi.org/10.1007/s10518-019-00740-y> (IF: 2.406, GS: 6 citations)
22. M. Moratti, F. Gaia, S. Martini, C. Tsioli, G. Grecchi, C. Casotto, G.M. Calvi, D. Den Hertog, P.M. Calvi, G.T. Proestos (2019). “A Methodology for the Seismic Multilevel Assessment of Unreinforced Masonry Church Inventories in the Groningen Area”, *Bulletin of Earthquake Engineering*, Volume 17, Issue 8, pp. 4625-4650. <https://doi.org/10.1007/s10518-019-00575-7>. (IF: 2.406, GS: 7 citations)
23. G.M. Calvi, M. Moratti, G.J. O'Reilly, N. Scattarreggia¹, R. Monteiro, D. Malomo, P.M. Calvi, R. Pinho (2019). “Once upon a Time in Italy: The Tale of the Morandi Bridge”, *Structural Engineering International*, Volume 29, Issue 2, pp. 198-217. (IF: 0.621, GS: 85 citations)
24. D. Perrone, P.M. Calvi, R. Nascimbene, E. Fischer, G. Magliulo (2019). “Seismic performance and damage observation of non-structural elements during the 2016 central Italy earthquakes”, *Bulletin of Earthquake Engineering*, Volume 17, Issue 10, pp. 5655-5677. (IF: 2.406, GS: 69 citations)
25. L. Di Sarno, F. da Porto, G. Guerrini, P.M. Calvi, G. Camata, A. Prota (2019). “Seismic performance assessment of bridges during the 2016 Central Italy earthquakes”, *Bulletin of Earthquake Engineering*, Volume 17, Issue 10, pp. 5729-5761. (IF: 2.406, GS: 26 citations)

26. S. Mazzoni, G. Castori, C. Galasso, P.M. Calvi, R. Dreyer, E. Fischer, A. Fulco, J. Wilson, A. Penna (2018). "2016-17 Central Italy Earthquake Sequence Seismic Retrofit Policy and Effectiveness", *Earthquake Spectra*, Volume 34, Issue 4, pp. 1671-1691. (IF: 2.900, GS: 29 citations)
27. P.M. Calvi, G.T. Proestos, D.M. Ruggiero (2018). "Towards the Development of Direct Crack-Based Assessment of Structures", *ACI Structural Journal*, SP 328, pp. 9.1-9.20. (IF: 1.287, GS: 6 citations)
28. P.M. Calvi, E.C. Bentz, M.P. Collins (2018). "Model for Assessment of Cracked Reinforced Concrete Membrane Elements Subjected to Shear and Axial Loads", *ACI Structural Journal*, Volume 115, No. 2, pp. 501-509. (IF: 1.287, GS: 12 citations)
29. P.M. Calvi, G.M. Calvi (2018). "Historical development of friction-based seismic isolation systems", *Soil Dynamics and Earthquake Engineering*, Volume 106, pp. 14-30. (IF: 2.723, GS: 59 citations)
30. P.M. Calvi, E.C. Bentz, M.P. Collins (2017). "The Pure Mechanics Crack Model for Cracked Reinforced Concrete Elements Transferring Shear and Axial Stresses", *ACI Structural Journal*, Volume 114, Issue 2, pp. 545-554. (IF: 1.287, GS: 14 citations)
31. P.M. Calvi, M. Moratti, G.M. Calvi (2016). "Seismic isolation devices based on sliding between surfaces with variable friction coefficient", *Earthquake Spectra*, Volume 32, Issue 4, pp. 2291-2315. (IF: 2.900, GS: 42 citations)
32. P.M. Calvi, E.C. Bentz, M.P. Collins (2016). "Reversed Cyclic Experiments on Shear Stress Transfer across Cracks in Reinforced Concrete Elements", *ACI Structural Journal*, Volume 113, Issue 4, pp. 851-859. (IF: 1.287, GS: 15 citations)
33. P.M. Calvi, D.M. Ruggiero (2016). "Numerical Modelling of Variable Friction Base Isolators", *Bulletin of Earthquake Engineering*, Volume 14, Issue 2, pp. 549-568. (IF: 2.406, GS: 25 citations)
34. P.M. Calvi, T.J. Sullivan (2014). "Estimating Floor Spectra in Multiple Degree of Freedom Systems", *Earthquakes and Structures*, Volume 7, Issue 1, pp. 017-38. (IF: 1.573, GS: 86 citations)
35. P.M. Calvi (2014). "Relative Displacement Floor Spectra for Seismic Design of Non-structural Elements", *Journal of Earthquake Engineering*, Volume 18, Issue 7, pp. 1037-1059. (IF: 2.754, GS: 35 citations)
36. T.J. Sullivan, P.M. Calvi, R. Nascimbene (2013). "Towards Improved Floor Spectra Estimates for Seismic Design", *Earthquakes and Structures*, Volume 4, Issue 1, pp. 109-132. (IF: 1.573, GS: 123 citations)

Conference proceedings and other non-journal articles

Fully refereed publications

1. G. Rebecchi, P.M. Calvi, A. Bussini, D. Bolognini, L. Grottoli, Stefano Cii, Matteo Rosti, Francesco Ripamonti "Full-scale shake table tests of a reinforced concrete structure equipped with a novel active mass damper", 3rd European Conference on Earthquake Engineering and Seismology, Bucharest, Romania, September 4th - September 9th, 2022.
2. E. Bruschi¹, V. Quaglini, P.M. Calvi, "A simplified design procedure for the seismic rehabilitation of RC framed structures with hysteretic damped braces", 3rd European Conference on Earthquake Engineering and Seismology, Bucharest, Romania, September 4th - September 9th, 2022.
3. E. Bruschi¹, V. Quaglini, P.M. Calvi, "A simplified design procedure to improve the seismic performance of RC framed buildings with hysteretic damped braces", 5th edition

- of the International Symposium “New Metropolitan Perspectives”, May 25th-May 27th, 2022, Università Mediterranea of Reggio Calabria, Italy. (GS: 0 citations)
4. E. Bruschi¹, V. Quaglini, P.M. Calvi, “Numerical assessment of concentrated plasticity models of ductile RC frames in non-linear dynamic analyses”, Proc. of the 2nd fib Symposium on Concrete and Concrete Structures, Nov 18th-19th, 2021, Sapienza University, Rome, Italy. (GS: 0 citations)
 5. A. Albright¹, A. Argentoni, P.M. Calvi, “Experimental investigation of interior and exterior steel-concrete composite NPS[®] beam-column joints”, 9th International Conference on Composite Construction in Steel and Concrete, Stromberg, Germany, July 26-30, 2021. (GS: 0 citations)
 6. N. Scattarreggia¹, A. Orgnoni¹, D. Malomo, P.M. Calvi, M. Moratti, G.M. Calvi, R. Pinho, “Computational forensic analysis of bridge collapses”, SEI-ASCE Structures Congress 2021, Seattle, Washington, USA, March 10th to 13th 2021. (GS: 0 citations)
 7. T.Z. Yeow, K. Kusunoki, I. Nakamura, Y. Hibino, T. Ohkubo, T. Seike, S. Yagi, T. Mukai, P. M. Calvi, M. Moustafa, S. Fukai, “The 2019 Tokyo Metropolitan Resilience Project E-Defense Test of a 3-Story Disaster Management Center”, 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 13th to 18th 2020. (GS: 1 citations)
 8. T. Yang¹, N. Marafi, P.M. Calvi, R. Wiebe, M.O. Eberhard, J.W. Berman, “Evaluation of Displacement-Based Design Methods for Structures with Friction Pendulum Systems”, 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 13th to 18th 2020. (GS: 0 citations)
 9. P.M. Calvi, T. Yang¹, R. Wiebe, “Development of Variable Friction Pendulum Systems”, 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 13th to 18th 2020. (GS: 0 citations)
 10. M. Furinghetti, T. Yang¹, P.M. Calvi, A. Pavese, “Dynamic Response of Curved Surface Slider Devices under Severe Input Motions”, 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 13th to 18th 2020. (GS: 1 citations)
 11. H. Zhang¹, K. Kuder, D. Lehman, P.M. Calvi, C. Roeder, “Effect of Recycled Concrete Aggregate on the Shear Behavior of Reinforced Concrete Panels”, Fifth International Conference on Sustainable Construction Materials and Technologies (SCMT5), London, UK, 14-17 July 2019. (GS: 0 citations)
 12. T. Yang¹, N. Marafi, P.M. Calvi, R. Wiebe, “Impact of Simulated M9 Cascadia Subduction Zone Motions on Base Isolated Structures”, 12th Canadian Conference on Earthquake Engineering, Quebec City, Canada, June 17-20, 2019. (GS: 1 citations)
 13. S.A. Bergquist¹, P.M. Calvi, R. Wiebe, “Introducing Adaptive Variable Friction Base Isolation Systems”, 12th Canadian Conference on Earthquake Engineering, Quebec City, Canada, June 17-20, 2019. (GS: 4 citations)
 14. M. Moratti, F. Gaia, S. Martini, C. Tsioli, G. Grecchi, G.M. Calvi, D. Den Hertog, P.M. Calvi, G.T. Proestos, “A Multilevel Methodology for the Seismic Assessment of Unreinforced Masonry Church Inventories in the Groningen Area”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018. (GS: 0 citations)
 15. M. Moratti, F. Gaia, S. Martini, A. Tomasi, C. Tsioli, G. Grecchi, S. Ozcebe, G.M. Calvi, D. Den Hertog, P.M. Calvi, G.T. Proestos, “Seismic Assessment of Unreinforced Masonry Terraced and Semi-Detached Houses in the Groningen Area, A Knowledge Based Support System”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018. (GS: 0 citations)
 16. T.Y. Yang¹, P.M. Calvi, R. Wiebe, “Numerical Implementation and Investigation of Variable Friction Sliding Base Isolators”, 11th U.S. National Conference on Earthquake Engineering, Los Angeles, California, 2018. (GS: 1 citations)

17. L. Aragaw¹, P.M. Calvi, “Floor Spectra in Hybrid Base-Rocking Wall Buildings”, 11th U.S. National Conference on Earthquake Engineering, Los Angeles, California, 2018. (GS: 0 citations)
18. S. Timsina¹, P.M. Calvi, “Damping properties of variable friction base isolation systems”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018. (GS: 5 citations)
19. A. Christman¹, P.M. Calvi, “Seismic Risk Assessment of Reinforced Concrete Bridges in Washington State Using a Performance Based Adaptive Methodology”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018. (GS: 0 citations)
20. P.M. Calvi, G.T. Proestos, D.M. Ruggiero, “Towards the Development of Direct Crack-Based Assessment of Structures”, *ACI Convention*, March 25-29 2018, Salt Lake City, UT. (GS: 1 citations)
21. G.M. Calvi, P.M. Calvi, M. Moratti (2017). “Seismic isolation of buildings using devices based on sliding between surfaces with variable friction coefficient”, *Innovative Infrastructure Solutions*, Volume 2, Issue 1, pp. 39. (GS: 3 citations)
22. P.M. Calvi, S. Timsina¹, “Numerical Study of the seismic behavior of variable friction base isolation system”, 39th IABSE Symposium – Engineering the Future, September 21-23 2017, Vancouver, Canada. (GS: 7 citations)
23. P.M. Calvi, D.M. Ruggiero “Earthquake-Induced Floor Accelerations in Base Isolated Structures”, 16th World Conference on Earthquake Engineering, 16WCEE 2017, Santiago Chile, January 9th to 13th 2017. (GS: 4 citations)
24. P.M. Calvi, E.C. Bentz, M.P. Collins “Shear Stress Transfer across Major Cracks in Reinforced Concrete”, Proceedings of the 10th fib International PhD Symposium in Civil Engineering July 21 to 23, 2014, Université Laval, Québec, Canada. (GS: 0 citations)
25. P.M. Calvi, T.J. Sullivan, “Improved estimation of floor spectra in RC wall buildings”, Proceedings of the 10th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, 2014. (GS: 3 citations)

Refereed by abstract only

1. D. Ji, Y. Turkan, P.M. Calvi “AI-Enabled Drone Image Processing for Rapid Bridge Inspection and Management”, EMI 2022, May 31-June 3 2022, Baltimore, Maryland, US. (GS: 0 citations)
2. E. Bruschi¹, V. Quaglini, P.M. Calvi, “Numerical assessment of concentrated plasticity models of ductile RC frames in non-linear dynamic analyses”, 2nd fib Symposium on Concrete and Concrete Structures, 18-19 November 2021 in Rome, Italy. (GS: 0 citations)
3. T.J. Peruchini¹, J. Stanton, P.M. Calvi, “Longitudinal Deck Joints between Concrete Girders Made Using UHPC”, The Third International Bridge Seismic Workshop, 3rd IBSW Seattle, Washington, USA - October 1st to 4th, 2019. (GS: 0 citations)
4. A. Orgnani¹, N. Scattarreggia¹, D. Malomo, P.M. Calvi, M. Moratti, G.M. Calvi, R. Pinho “Seismic Assessment of Concrete Balanced-System Bridges”, The Third International Bridge Seismic Workshop, 3rd IBSW Seattle, Washington, USA - October 1st to 4th, 2019. (GS: 0 citations)
5. T. Yang¹, U. Ozcamur, P.M. Calvi, R. Wiebe, E. Bruschi¹, V. Quaglini, H. Sucuoglu, A. Pavese, “Experimental Investigation of the Behavior of Variable Friction Base Isolation Systems”, Proceedings of the 7th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete island, Greece, 24-26 June, 2019. (GS: 3 citations)
6. H. Aghabeigi, G. Proestos, P.M. Calvi “Seismic Assessment of a Full-Scale Rocking Shear Wall Structure”, Proceedings of the 5th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete Island, Greece, 25 - 27 May 2015. (GS: 0 citations)

7. T.J. Sullivan, P.M. Calvi, D.P. Welch, “Estimating roof-level acceleration spectra for single storey buildings”, Proceedings of the 4th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Kos island, Greece, 2013. (GS: 3 citations)
8. P.M. Calvi, M. Pingaro, P. Venini, “Truly-mixed finite-elements for the analysis of viscoelastic devices”, Proceedings of the 20th AIMETA Conference, Bologna, Italy, 2011. (GS: 0 citations)
9. P.M. Calvi, P. Venini, “Toward a novel approach for damage identification and health monitoring of bridge structures”, Proceedings of the 19th AIMETA Conference, Ancona, Italy, 2009. (GS: 0 citations)

Complete books written

None

Parts of books (chapters in edited books)

1. G.M. Calvi, M. Moratti, N. Scattarreggia¹, V. Özşarac, P.M. Calvi, R. Pinho, “Numerical investigations on the collapse of the Morandi Bridge”, Springer Tracts on Transportation and Traffic, 2021, 17, pp. 3–18.

Books edited

None

Journal issues edited

None

Patents submitted and/or awarded

None

Papers submitted (for refereed archival journal publication)

1. W. Galik¹, P.M. Calvi “Corrosion and Fatigue of Morandi Bridge Cable Stays: Post-Collapse Analysis”, *Engineering Structures*. (IF: 2.528)
2. W. Galik¹, P.M. Calvi “Experimental and Numerical Response of Steel-Concrete Composite NPS® Beams”, *Engineering Structures*. (IF: 2.528)

Papers in preparation (for refereed archival journal publication)

1. T. Sweet¹, P.M. Calvi, L. Lowes, J. Berman, T. Yeow, K. Kusunoki “Data Collection Using Terrestrial Laser Scanners from the Shake Table Test of a Full-Scale Reinforced Concrete Building” *TBD*.
2. W. Galik¹, P.M. Calvi “Finite Element Modeling of Steel-Concrete Composite NPS® Beam-Column Joints Subject to Reversed Cyclic Loads”, *Engineering Structures*. (IF: 2.528)
3. W. Galik¹, P.M. Calvi “Sectional analysis of multi-cell cross sections subject to simultaneous flexure, shear and torsion” *TBD*.
4. S. Turner¹, J. Stanton, P.M. Calvi “Experimental response of prestressed concrete hollow piles subject to shear and bending” *TBD*.

Abstracts, letters, non-refereed papers, technical reports

Non-refereed papers

1. A. Albright¹, A. Argentoni, G. Faga, P.M. Calvi (2022). “Experimental Behavior of Interior and Exterior Steel-Concrete Composite NPS[®] Beam-Column Joints”, *Progettazione Sismica*
2. P.M. Calvi, G. Faga, G.M. Calvi (2018). “Sviluppo storico dei sistemi di isolamento sismico ad attrito”, *Progettazione Sismica*, Volume 10, Issue 2 (In Italian). (GS: 0 citations)
3. P.M. Calvi, M. Moratti, A. Filiatrault (2015). “Role and importance of non-structural elements in the seismic vulnerability of school buildings”, *Progettazione Sismica*, Volume 6, Issue 3 (In Italian). (GS: 4 citations)
4. T.J. Sullivan, P.M. Calvi, D. Bolognini (2015). “Evaluation of floor spectra for the seismic design of non-structural elements”, *Progettazione Sismica*, Volume 6, Issue 3 (In Italian). (GS: 1 citations)
5. P.M. Calvi, M. Moratti, G.M. Calvi (2015). “Seismic isolation devices based on variable friction sliding materials”, *Progettazione Sismica*, Volume 6, Issue 1 (In Italian). (GS: 0 citations)

Technical reports

1. P.M. Calvi, A. Albright¹, “Experimental behavior of NPS beam-column joints”, Technical Report submitted to TECNOSTRUTTURE, December 2020.
2. P.M. Calvi, D. Lehman, S. Ahn¹, “Shear Friction Capacity of Concrete Joints with High Strength Reinforcement”, Technical Report submitted to Concrete Research Council of ACI, November 2020.
3. J. Stanton, P.M. Calvi, T. Tardieu¹, S. Turner¹, “Use of Hollow Prestressed Concrete Pile-Columns for Bridges in Seismic Regions” Washington (State). Dept. of Transportation. Office of Research and Library Services, 2020.
4. Al. et P.M. Calvi, “D9.1 - Technical report on SERA Transnational Access activities TA1-TA10 M24”, Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe, Work Package WP8-WP17, April 30, 2020.
5. P.M. Calvi, “Earthquake-resistant construction system composed of steel-concrete composite beams, columns and beam-to-column joints: Explanatory Notes on Design Recommendations”, Technical Report submitted to TECNOSTRUTTURE, February 2020.
6. P.M. Calvi, “Earthquake-resistant construction system composed of steel-concrete composite beams, columns and beam-to-column joints. Beam-Column Joints and Plastic Hinge Regions: Proposed Experimental Program”, Technical Report submitted to TECNOSTRUTTURE, January 2020.
7. P.M. Calvi, “Earthquake-resistant construction system composed of steel-concrete composite beams, columns and beam-to-column joints: Special Considerations for Beam-Column Joints and Plastic Hinge regions”, Technical Report submitted to TECNOSTRUTTURE, November 2019.
8. P.M. Calvi, “Earthquake-resistant construction system composed of steel-concrete composite beams, columns and beam-to-column joints: Design Recommendations”, Technical Report submitted to TECNOSTRUTTURE, October 2019.
9. T.J. Peruchini¹, J. Stanton, P.M. Calvi, “Investigation of Ultra High-Performance Concrete for Longitudinal Joints in Deck Bulb Tee Bridge Girders”, Washington (State). Dept. of Transportation. Office of Research and Library Services, 2017. (GS: 2 citations)

10. P.M. Calvi, “A theory for the shear behaviour of cracks providing a basis for the assessment of cracked reinforced concrete structures”, PhD dissertation, University of Toronto, Canada, June 2015. (GS: 8 citations)
11. P.M. Calvi, M. Moratti, A. Filiatrault, “Analisi della Risposta di Elementi Non Strutturali durante Terremoti Passati”, technical report submitted to the European Centre for Training and Research in Earthquake Engineering (Eucentre), Pavia, Italy, June, 2015.
12. P.M. Calvi, A. Filiatrault, “Assessment of Cracked Reinforced Concrete Bridge Structures”, technical report submitted to the European Centre for Training and Research in Earthquake Engineering (Eucentre), Pavia, Italy, December 31, 2014.
13. P.M. Calvi, A. Filiatrault, “Vulnerabilità degli Elementi non Strutturali in Edifici Scolastici”, technical report (in Italian) submitted to the European Centre for Training and Research in Earthquake Engineering (Eucentre), Pavia, Italy, December 1, 2014.
14. P.M. Calvi, A. Filiatrault, “Role and Importance of Non-Structural Elements in the Seismic Vulnerability of School Buildings in Past Earthquakes”, technical report submitted to the European Centre for Training and Research in Earthquake Engineering (Eucentre), Pavia, Italy, November 1, 2014.

Other significant research dissemination (web sites, software, Wikis, etc.)

None

MISCELLANEOUS

Outside Professional Work for Compensation (1460s)

None

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

1. ABC-UTC Webinar, *Behavior and Strength of UHPC in Shear*, July 30th, 2021.
2. NHERI-NIED/E-Defense 4th Collaboration Meeting, Remote, *Japan-U.S. Collaboration on the Seismic Performance of Reinforced Concrete Structures*, December 2020.
3. Joint NHERI@UC San Diego - RAPID Researcher Workshop 2020, *Japan-U.S. Collaboration on the Seismic Performance of Reinforced Concrete Structures*, December 2020.
4. 2019 NHERI-E-Defense Meeting, Miki, Japan, *Japan-U.S. Collaboration on the Seismic Performance of Reinforced Concrete Structures*, December 2019.
5. SEAW Seattle Chapter and Southwest Chapter Joint Meeting, *Response to the August 24, 2016 Central Italy Earthquake*, April 2017.
6. University of Liege, Belgium, *Advanced Design of Reinforced Concrete Structures*, Short Course, December 2016.
7. ARUP, Toronto, Canada, *Performance Assessment of Reinforced Concrete Structures Subject to Complex Loading Conditions*, April 2015.
8. University of Nevada, Reno, Department of Civil and Environmental Engineering, *Performance Assessment of Reinforced Concrete Structures Subject to Complex Loading Conditions*, April 2015.
9. University of Washington, Seattle, *Department of Civil and Environmental Engineering, Performance Assessment of Reinforced Concrete Structures Subject to Complex Loading Conditions*, March 2015.

10. University at Buffalo, The State University of New York, Department of Civil, Structural and Environmental Engineering Performance, *Towards Floor Response Spectra Estimates for Seismic Design*, February 2013.
11. University of Toronto, Department of Civil and Environmental Engineering, *Response of Heavily Cracked RC Membrane Elements Subjected to Cyclic and Reverse Cyclic Loads*, October 2012.
12. Queen's University, Department of Civil and Environmental Engineering, *An Experimental Campaign: Preliminary Results on Aggregate Interlock Behaviour*, October 2011.

Presentations given at conferences (presenter in bold).

1. **E. Bruschi**¹, V. Quaglini, P.M. Calvi (2022). "A simplified design procedure to improve the seismic performance of RC framed buildings with hysteretic damped braces", 5th edition of the International Symposium "New Metropolitan Perspectives", May 25th-May 27th, 2022, Università Mediterranea of Reggio Calabria, Italy. (GS: 0 citations)
2. **E. Bruschi**¹, V. Quaglini, P.M. Calvi, "Numerical assessment of concentrated plasticity models of ductile RC frames in non-linear dynamic analyses", Proc. of the 2nd fib Symposium on Concrete and Concrete Structures, Nov 18th-19th, 2021, Sapienza University, Rome, Italy.
3. A. Albright¹, A. Argentoni, **P.M. Calvi**, "Experimental investigation of interior and exterior steel-concrete composite NPS[®] beam-column joints", 9th International Conference on Composite Construction in Steel and Concrete, Stromberg, Germany, July 26-30, 2021. (GS: 0 citations)
4. **P.M. Calvi**, T. Sweet¹, L.N. Lowes, J.W. Berman "Lidar Evaluation of Damage to a Reinforced Concrete Moment Frame Structure", 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 27th to October 2nd 2021.
5. **T.Z. Yeow**, K. Kusunoki, I. Nakamura, Y. Hibino, T. Ohkubo, T. Seike, S. Yagi, T. Mukai, P. M. Calvi, M. Moustafa, S. Fukai, "The 2019 Tokyo Metropolitan Resilience Project E-Defense Test of a 3-Story Disaster Management Center", 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 27th to October 2nd 2021. (GS: 1 citations)
6. **T. Yang**¹, N. Marafi, P.M. Calvi, R. Wiebe, M.O. Eberhard, J.W. Berman, "Evaluation of Displacement-Based Design Methods for Structures with Friction Pendulum Systems", 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 27th to October 2nd 2021. (GS: 0 citations)
7. P.M. Calvi, **T. Yang**¹, R. Wiebe, "Development of Variable Friction Pendulum Systems", 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 27th to October 2nd 2021. (GS: 0 citations)
8. **M. Furinghetti**, T. Yang¹, P.M. Calvi, A. Pavese, "Dynamic Response of Curved Surface Slider Devices under Severe Input Motions", 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan - September 27th to October 2nd 2021. (GS: 1 citations)
9. N. Scattarreggia¹, A. Orgnani¹, **D. Malomo**, P.M. Calvi, M. Moratti, G.M. Calvi, R. Pinho, "Computational forensic analysis of bridge collapses", SEI-ASCE Structures Congress 2021, Seattle, Washington, USA, March 10th to 13th 2021.
10. S. Ahn¹, **P.M. Calvi**, D. Lehman, "Shear Friction Capacity of Concrete Cold Joints", *ACI Convention*, October 20-24 2019, Cincinnati, OH, USA.
11. T.J. Peruchini¹, J. Stanton, P.M. Calvi, "Longitudinal Deck Joints between Concrete Girders Made Using UHPC", The Third International Bridge Seismic Workshop, 3rd IBSW Seattle, Washington, USA - October 1st to 4th, 2019.

12. A. Orgnani¹, N. Scattarreggia¹, **D. Malomo**, P.M. Calvi, M. Moratti, G.M. Calvi, R. Pinhom “Seismic Assessment of Concrete Balanced-System Bridges”, The Third International Bridge Seismic Workshop, 3rd IBSW Seattle, Washington, USA - October 1st to 4th, 2019. (GS: 0 citations)
13. H. Zhang¹, **K. Kuder**, D. Lehman, P.M. Calvi, C. Roeder, “Effect of Recycled Concrete Aggregate on the Shear Behavior of Reinforced Concrete Panels”, Fifth International Conference on Sustainable Construction Materials and Technologies (SCMT5), London, UK, 14-17 July 2019.
14. T. Yang¹, U. Ozcamur, P.M. Calvi, R. Wiebe, **E. Bruschi**¹, V. Quaglini, H. Sucuoglu, A. Pavese, “Experimental Investigation of the Behavior of Variable Friction Base Isolation Systems”, Proceedings of the 7th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete island, Greece, 24-26 June, 2019.
15. **T. Yang**¹, N. Marafi, P.M. Calvi, R. Wiebe, “Impact of Simulated M9 Cascadia Subduction Zone Motions on Base Isolated Structures”, 12th Canadian Conference on Earthquake Engineering, Quebec City, Canada, June 17-20, 2019.
16. **S.A. Bergquist**¹, P.M. Calvi, R. Wiebe, “Introducing Adaptive Variable Friction Base Isolation Systems”, 12th Canadian Conference on Earthquake Engineering, Quebec City, Canada, June 17-20, 2019.
17. S. Ahn¹, P.M. Calvi, D. Lehman, “Shear Friction Capacity of Concrete Joints with High Strength Reinforcement”, *ACI Convention*, October 14-18 2018, Las Vegas, NV, USA.
18. **M. Moratti**, F. Gaia, S. Martini, C. Tsioli, G. Grecchi, G.M. Calvi, D. Den Hertog, P.M. Calvi, G.T. Proestos, “A Multilevel Methodology for the Seismic Assessment of Unreinforced Masonry Church Inventories in the Groningen Area”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018.
19. **M. Moratti**, F. Gaia, S. Martini, A. Tomasi, C. Tsioli, G. Grecchi, S. Ozcebe, G.M. Calvi, D. Den Hertog, P.M. Calvi, G.T. Proestos, “Seismic Assessment of Unreinforced Masonry Terraced and Semi-Detached Houses in the Groningen Area, A Knowledge Based Support System”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018.
20. **T.Y. Yang**¹, P.M. Calvi, R. Wiebe, “Numerical Implementation and Investigation of Variable Friction Sliding Base Isolators”, 11th U.S. National Conference on Earthquake Engineering, Los Angeles, California, 2018.
21. L. Aragaw¹, P.M. Calvi, “Floor Spectra in Hybrid Base-Rocking Wall Buildings”, 11th U.S. National Conference on Earthquake Engineering, Los Angeles, California, 2018.
22. S. Timsina¹, P.M. Calvi, “Damping properties of variable friction base isolation systems”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018.
23. A. Christman¹, P.M. Calvi, “Seismic Risk Assessment of Reinforced Concrete Bridges in Washington State Using a Performance Based Adaptive Methodology”, 16th European Conference on Earthquake Engineering, Thessaloniki, Greece, 2018.
24. P.M. Calvi, G.T. Proestos, D.M. Ruggiero, “Towards the Development of Direct Crack-Based Assessment of Structures”, *ACI Convention*, March 25-29 2018, Salt Lake City, UT, USA.
25. **G.M. Calvi**, P.M. Calvi, M. Moratti (2017). “Seismic isolation of buildings using devices based on sliding between surfaces with variable friction coefficient”, *Innovative Infrastructure Solutions*, Volume 2, Issue 1, pp. 39. (GS: 0 citations)
26. P.M. Calvi, **S. Timsina**¹, “Numerical Study of the seismic behavior of variable friction base isolation system”, 39th IABSE Symposium – Engineering the Future, September 21-23 2017, Vancouver, Canada.

27. **P.M. Calvi**, D.M. Ruggiero “Earthquake-Induced Floor Accelerations in Base Isolated Structures”, 16th World Conference on Earthquake Engineering, 16WCEE 2017, Santiago Chile, January 9th to 13th 2017.
28. H. Aghabeigi, **G. Proestos**, **P.M. Calvi** “Seismic Assessment of a Full Scale Rocking Shear Wall Structure”, Proceedings of the 5th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete Island, Greece, 25 - 27 May 2015.
29. **P.M. Calvi**, E.C. Bentz, M.P. Collins “Shear Stress Transfer across Major Cracks in Reinforced Concrete”, Proceedings of the 10th fib International PhD Symposium in Civil Engineering July 21 to 23, 2014, Université Laval, Québec, Canada.
30. **P.M. Calvi**, **T.J. Sullivan**, “Estimating Floor Spectra in Multiple Degree of Freedom Systems”, Proceedings of the 10th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, 2014.
31. **T.J. Sullivan**, **P.M. Calvi**, D.P. Welch, “Estimating roof-level acceleration spectra for single storey buildings”, Proceedings of the 4th ECCOMAS thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Kos island, Greece, 2013.
32. **P.M. Calvi**, M. Pingaro, **P. Venini**, “Truly-mixed finite-elements for the analysis of viscoelastic devices”, Proceedings of the 20th AIMETA Conference, Bologna, Italy, 2011.
33. **P.M. Calvi**, **P. Venini**, “Toward a novel approach for damage identification and health monitoring of bridge structures”, Proceedings of the 19th AIMETA Conference, Ancona, Italy, 2009.

Professional society memberships.

American Concrete Institute (ACI), 2016 - present

Earthquake Engineering Research Institute (EERI), 2016 - present

International Association for Bridge and Structural Engineering (IABSE), 2016 – 2019

Member of Italian Society for Civil Engineering, 2011 - present

Referee/Reviewer

Journals (some examples): Journal of Earthquake Engineering, Earthquake Engineering and Engineering Vibration, ACI Structural Journal, Earthquake Spectra, Smart Structures and Systems, An International Journal, Engineering Structures, Journal of Structural Engineering, International Journal of Advanced Structural Engineering, European Journal of Environmental and Civil Engineering, Civil Engineering Infrastructures Journal, Geosciences.

Conferences (some examples): 15th World Conference on Earthquake Engineering (Lisbon, September 2012), 39th IABSE Symposium – Engineering the Future (Vancouver, September 2017), 16th World Conference on Earthquake Engineering (Santiago, Chile 2017), 16th European Conference on Earthquake Engineering.

GRADUATE STUDENTS

Chaired Doctoral Students

| Student Name | My Role | Dissertation Topic | Completed | Current Employer |
|--------------|------------------------|---------------------------------------------------------------|--------------|--------------------------|
| Tianye Yang | Co-chair (w/ Wiebe) | High Performance Friction Type Bearings for Seismic Isolation | Spring, 2020 | Simpson Gumpertz & Heger |

| Student Name | My Role | Dissertation Topic | Completed | Current Employer |
|------------------|------------------------------|-------------------------------------------------------------------------------|-------------|----------------------|
| Eleonora Bruschi | Co-chair (w/ Quaglini) | Design and characterization of Lead-Extrusion Dampers with adaptive behaviour | Autumn 2021 | Polytechnic of Milan |

Current Doctoral Students

| Student Name | My Role | Dissertation Topic | Status | Estimated Completion |
|------------------------|---------|--------------------|------------------------|----------------------|
| Samiullah Khan Bangash | Chair | TBD | First year PhD | Spring 2025 |
| William Galik | Chair | TBD | Passed qualifying exam | Spring, 2024 |

Chaired Masters Students

| Student Name | My Role | Level of Supervision | Thesis Topic | Completed (year) | Current Employer |
|------------------|-----------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|
| William Galik | Chair | MSCE Thesis | The Use of Analytical and Numerical Methods to Investigate the Timing of the Morandi Bridge Collapse | Summer 2021 | IUSS Pavia, Italy |
| Ann Albright | Chair | MSCE Thesis | Experimental Study on Steel-Concrete Composite NPS System Beam Column Joints Under Reversed Cyclic Earthquake Loading | Spring 2021 | Virginia Tech |
| Danielle Voytko | Co-chair (w/ Stanton) | MSCE Thesis | Evaluation of the Shear Strength of Ultra High-Performance Concrete | Spring 2021 | Unknown |
| Tatsuiko Sweet | Co-chair (w/ Lowes) | MSCE Research Project | NA | Winter 2021 | University of Washington |
| Stephan Ahn | Co-chair (w/ Lehman) | MSCE Thesis | Shear Friction Capacity of Concrete Joints with High Strength Reinforcement | Spring, 2020 | Mackenzie, Seattle |
| Sam Turner | Co-chair (w/ Stanton) | MSCE Thesis | Seismic Retrofit of Bridges Supported on Hollow Core Prestressed Concrete Pile-Columns | Winter, 2020 | Coughlin Porter Lundeen |
| Sarah Bergquist | Co-chair (w/ Wiebe) | MSCE Thesis | Behavior and Design of an Adaptive Variable Friction Base-Isolation System | Spring, 2019 | Degenkolb Engineers |
| Tasha Tardieu | Co-chair (w/ Stanton) | MSCE Thesis | Seismic Evaluation of Hollow Core Prestressed Concrete Bridge Column-Piles in Washington State | Spring, 2019 | Unknown |
| Audrey Davaadorj | Co-chair (w/ Stanton) | MSCE Thesis | Shear Stress Transfer across Concrete-to-Concrete and Steel-to-Concrete Interfaces | Spring, 2018 | KPFF Consulting Engineers |

| Student Name | My Role | Level of Supervision | Thesis Topic | Completed (year) | Current Employer |
|---------------------|-----------------------|-----------------------------|----------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|
| Timothy Peruchini | Co-chair (w/ Stanton) | MSCE Thesis | Investigation of Ultra High-Performance Concrete for Longitudinal Joints in Deck Bulb Tee Bridge Girders | Winter, 2017 | Reid Middleton |
| Sandip Timsina | Chair | MSCE Thesis | A Study of Variable Friction Base Isolation Systems | Spring, 2017 | Fossatti Pawlak Structural Engineers |
| Abigail Christman | Chair | MSCE Thesis | Earthquake Risk Assessment of Reinforced Concrete Bridges in Washington State Using Pushover Analysis | Spring, 2017 | Thornton Tomasetti |
| Leikune Aragaw | Chair | MSCE Thesis | Floor Response Spectra in Hybrid Base-Rocking and Reinforced Concrete Wall Buildings | Spring, 2017 | Magnusson Klemencic Associates |

Current Masters Students

| Student Name | My Role | Level of Supervision | Status | Estimated Completion |
|---------------------|------------------------|-----------------------------|-------------------------|-----------------------------|
| John Paul Gaston | Co-chair (w/ Thonstad) | MSCE Thesis | Started in Autumn 2021 | Spring 2023 |
| Benedikt Farag | Chair | MSCE Thesis | Starting in Autumn 2022 | Spring 2024 |

Undergraduate Students Supervision

| Student Name | My Role | Level of Supervision | Status | Estimated Completion |
|---------------------|----------------|-----------------------------|---------------|-----------------------------|
| Younis Riyami | Advisor | Individual Study | Completed | Spring, 2020 |
| Ian McWhirter | Advisor | Individual Study | Completed | Summer/Fall, 2017 |
| Dakota Hunsaker | Advisor | Individual Study | Completed | Summer, 2017 |

Other Significant Student Supervision

Visiting graduate student advising

| Student Name | My Role | Level of Supervision | Home Institution | Dates of Supervision |
|----------------------------|-----------------------------------------------|-----------------------------|--------------------------------|-----------------------------|
| Nicola Scattarreggia (PhD) | Advisor during visitation | PhD Dissertation | IUSS Pavia (Italy) | 2020-2021 |
| Andrea Orgnoni (PhD) | Advisor during visitation | PhD Dissertation | IUSS Pavia (Italy) | 2020-2021 |
| Huang Weiguo (PhD) | Advisor during visitation (co-advisor: Wiebe) | Research project | Nanjing Tech University, China | 2020-2021 |

| Student Name | My Role | Level of Supervision | Home Institution | Dates of Supervision |
|---------------------------------|------------------------------------------------|-----------------------------|----------------------------|-----------------------------|
| Mohamad Alipour (PhD) | Co-advisor during visitation (advisor: Miller) | Research project | University of Virginia | 2018 |
| Huan Zhang (PhD) | Advisor during visitation (co-advisor: Lehman) | Research project | HIT (China) | 2018-2019 |
| Alexander Kagermanov (Post-Doc) | Advisor during visitation | Research project | UME School (Italy) | 2016-2017 |
| Giulia Scagliotti (MSCE) | Advisor during visitation | MSCE Thesis | University of Pavia, Italy | 2016-2017 (Graduation 2017) |

Membership on PhD degree committees

| Student Name | Department, Institution | Degree | Date |
|---------------------|-----------------------------------------|---------------|-----------------|
| Andrea Natale | CEE, University of Naples "Federico II" | PhD | 2022 (expected) |
| Sarah Wichman | CEE, UW | PhD | 2022 (expected) |
| Jarrod Zaborac | CEE, UT Austin | PhD | Spring, 2021 |
| Tom Lin | CEE, UW | PhD | 2022 (expected) |
| Kamal Ahmed | CEE, UW | PhD | Summer, 2021 |
| Nikola Tatar | CEE, University of Liege | PhD | Fall, 2020 |
| Rouzbeh Davoudi | CEE, UW | PhD | Spring 2019 |
| A. Gonzalez-Fonseca | CEE, IUSS Pavia | PhD | Winter, 2016 |
| D. Welch | CEE, IUSS Pavia | PhD | Winter, 2016 |
| A. Kagermanov | CEE, IUSS Pavia | PhD | Winter, 2016 |
| R. Milanesi | CEE, IUSS Pavia | PhD | Winter, 2016 |
| C. Nievas | CEE, IUSS Pavia | PhD | Winter, 2016 |
| G. O'Reilly | CEE, IUSS Pavia | PhD | Winter, 2016 |
| M. Oliaee | CEE, IUSS Pavia | PhD | Winter, 2016 |
| A. Rosti | CEE, IUSS Pavia | PhD | Winter, 2016 |
| C. Zelaschi | CEE, IUSS Pavia | PhD | Winter, 2016 |

Membership on Masters' degree committees

| Student Name | Department | Degree | Date |
|---------------------|-------------------|---------------|--------------|
| Benjamin Terry | CEE, UW | MSCE | Summer, 2022 |
| Ray Yu | CEE, UW | MSCE | Summer, 2021 |
| Kayla Wielgus | CEE, UW | MSCE | Spring, 2020 |
| Anne Magnus | CEE, UW | MSCE | Fall, 2019 |
| Jakob Sumearll | CEE, UW | MSCE | Spring, 2017 |
| Sarah Wichman | CEE, UW | MSCE | Spring, 2017 |
| Kristina Tsvetanova | CEE, UW | MSCE | Fall, 2016 |
| Andrew Yang | CEE, UW | MSCE | Summer, 2016 |

RESEARCH ACTIVITIES

Total research funding: \$1,927,087

Total of my amounts: \$1,234,217

Funded Research

| Funding Agency | Title | My role with other PI's and co-PI's | Total Amount, my amount, (subcontracts, Matching if any) | Dates (start – finish) |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------|
| ABC-UTC | <i>Exploring the Combined Use of Distributed Fiber and Deformed Bar Reinforcement to Resist Shear Forces</i> | Co-PI (PI: Thonstad, UW) | Total: \$70,000, My Amount: \$35,000 | 09/2022 - 09/2024 |
| TECNOSTRUTTURA | <i>Shear behavior of a novel steel-concrete composite system</i> | Sole PI | Total: \$30,000, My Amount: \$30,000 | 03/2022 - 03/2023 |
| ACI Foundation's CRC | <i>Shear Behavior of Macro-Synthetic Fiber-Reinforced Concrete</i> | Co-PI (PI: Thonstad, UW) | Total: \$89,500, (\$32,000 UW match) My Amount: \$30,000 | 09/2021 - 06/2023 |
| PacTrans | <i>LiDAR, Drones and BrIM for Rapid Bridge Inspection and Management</i> | UW PI (PI: Turkan, OSU) | Total: \$300,000 (\$90,000 OSU match; \$60,000 UW match) My Amount: \$ 120,000 | 03/2021 - 03/2023 |
| TECNOSTRUTTURA | <i>Experimental Testing of a novel precast beam-to-column connection</i> | Sole PI | Total: \$210,000, My Amount: \$210,000 | 03/2020 - 03/2022 |
| NSF | <i>RAPID/ COLLABORATIVE RESEARCH: Japan-U.S. Collaboration on the Seismic Performance of Reinforced Concrete Structures</i> | PI (Co-PI: Lowes, UW; Moustafa, UNR) | Total: \$188,700 My Amount: \$134,080 | 11/2019 – 10/2020 |
| Mosayk | <i>Assessment of bridges subjected to impact loads</i> | Sole PI | Total: \$128,380, My Amount: \$128,380 | 09/2019 - 09/2020 |
| TECNOSTRUTTURA | <i>Development of a novel precast beam-to-column connection</i> | Sole PI | Total: \$67,768, My Amount: \$67,768 | 01/2019 - 01/2020 |
| ABC-UTC | <i>Evaluation of the Shear Strength of UHPC</i> | UW PI (Co-PI: Stanton, UW) | Total: \$110,000, My Amount: \$55,000 | 03/2019 – 03/2020 |
| ACI Foundation's CRC | <i>Shear Friction Capacity of Concrete Joints with High Strength Reinforcement</i> | PI (Co-PI: Lehman, UW) | Total: \$87,500, (\$30,000 UW match) My Amount: \$58,750 | 01/2019 – 06/2020 |

| Funding Agency | Title | My role with other PI's and co-PI's | Total Amount, my amount, (subcontracts, Matching if any) | Dates (start – finish) |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|-------------------------------|
| SERA | <i>Dynamic testing of variable friction seismic isolation devices and isolated systems</i> | UW PI (PI: Haluk Sucuoglu, METU) | Total: \$210,000, My Amount: \$105,000 | 01/2018 - 01/2019 |
| WSDOT | <i>Seismic Evaluation and Retrofit of Hollow Precast Concrete Pile-Columns</i> | Co-PI (PI: Stanton, UW) | Total: \$190,000, My Amount: \$95,000 | 04/2017 - 03/2019 |
| RRF | <i>Development of high-tech seismic protection devices based on sliding between variable-friction curved surfaces</i> | Sole PI | Total: \$35,239, My Amount: \$35,239 | 03/2017 - 03/2018 |
| PCI | <i>Shear Stress Transfer across Steel to Concrete Interfaces and Effects of Dowel Action</i> | PI (Co-PI: Stanton, UW) | Total: \$85,000, (\$50,000 UW match) My Amount: \$67,500 | 09/2016 - 09/2017 |
| WSDOT | <i>Investigation of Ultra-High Performance Concrete for Longitudinal Joints in Deck Bulb Tee Bridge Girders</i> | Co-PI (PI: Stanton, UW) | Total: \$125,000, My Amount: \$62,500 | 07/2015 - 06/2017 |

Pending proposals

| Funding Agency | Title | My role with other PI's and co-PI's | Total amount, my amount, (Subcontracts, Matching if any) | Dates (start – finish) |
|-----------------------|--------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|-------------------------------|
| RRF | <i>Multi-Axial Behavior of Macro-Synthetic Fiber-Reinforced Concrete</i> | Sole PI | Total: \$40,000, My Amount: \$40,000 | 09/2022 – 09/2023 |

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations

Students rated the courses on a scale of 0-5 [0 = very poor, 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent]

Item 1, “The course content as a whole was”

Item 3, “The instructor’s contribution to the course was”

Item 4, “The instructor’s effectiveness in teaching the subject was”

Reported scores are adjusted medians, which have been corrected by *IASystem* to control for differences in class size, expected grade, and reason for enrollment based on regression analyses of ratings over the previous two academic years in all classes at UW.

| Course | Title | Quarter | Credit Hrs | Enrol. | Evals.? Response | Item 1 | Item 3 | Item 4 | Avg. of 1-4 |
|---------------|----------------|----------------|-------------------|---------------|-------------------------|---------------|---------------|---------------|--------------------|
| CESG* 599 | Seismic Design | Summer 2022 | 3 | - | - | - | - | - | - |

| Course | Title | Quarter | Credit Hrs | Enrol. | Evals.? Response | Item 1 | Item 3 | Item 4 | Avg. of 1-4 |
|---------------|---------------|-------------|------------|--------|------------------|--------|--------|--------|-------------|
| CESG** 502 | Str. Dyn. | Winter 2022 | 4 | 27 | Yes, 6/27 | 5.1 | 5.3 | 5.3 | 5.2 |
| CESG* 526 | Eq. Eng. I | Spring 2021 | 3 | 24 | Yes, 10/23 | 3.6 | 4.2 | 4.0 | 4.0 |
| CESG* 502 | Str. Dyn. | Winter 2021 | 4 | 29 | Yes, 4/29 | 4.6 | 4.6 | 4.9 | 4.7 |
| CEE* 452 | Reif. Conc. | Fall 2021 | 3 | 38 | Yes, 15/38 | 3.8 | 4.1 | 3.8 | 4.0 |
| CESG 502 | Str. Dyn. | Winter 2020 | 4 | 39 | Yes, 18/39 | 4.8 | 5.0 | 4.8 | 4.9 |
| CEE 220 | Mech. Of Mat. | Fall 2019 | 4 | 69 | Yes, 16/69 | 4.5 | 4.9 | 4.6 | 4.7 |
| CESG 526 | Eq. Eng. I | Spring 2019 | 3 | 38 | Yes, 23/38 | 4.2 | 4.2 | 4.2 | 4.2 |
| CESG 502 | Str. Dyn. | Winter 2019 | 4 | 41 | Yes, 19/41 | 4.6 | 4.6 | 4.7 | 4.6 |
| CEE 220 | Mech. Of Mat. | Fall 2018 | 4 | 71 | Yes, 40/71 | 4.5 | 4.8 | 4.9 | 4.6 |
| CESG 526 | Eq. Eng. I | Spring 2018 | 3 | 29 | Yes, 18/29 | 4.6 | 4.8 | 4.9 | 4.7 |
| CESG 502 | Str. Dyn. | Winter 2018 | 3 | 30 | Yes, 28/30 | 4.5 | 4.4 | 4.4 | 4.4 |
| CEE 220 A | Mech. Of Mat. | Spring 2017 | 4 | 229 | Yes, 150/229 | 4.2 | 4.4 | 4.3 | 4.3 |
| CEE 220 B | Mech. Of Mat. | Spring 2017 | 4 | 48 | Yes, 30/48 | 4.2 | 4.2 | 4.1 | 4.2 |
| CEE 502 | Str. Dyn. | Winter 2017 | 3 | 44 | Yes, 32/44 | 4.2 | 4.0 | 4.3 | 4.2 |
| CEE 502 | Str. Dyn. | Winter 2016 | 3 | 43 | Yes, 32/43 | 3.7 | 3.7 | 3.6 | 3.7 |
| CEE 220 | Mech. Of Mat. | Fall 2015 | 4 | 46 | Yes, 22/46 | 3.3 | 3.9 | 3.3 | 3.4 |

*Remote teaching

**Hybrid teaching

Peer Teaching Evaluations

| Course | Quarter | Reviewer |
|----------|-------------|----------------|
| CESG 526 | Spring 2021 | Richard Wiebe |
| CESG 526 | Spring 2020 | Marc Eberhard |
| CESG 526 | Spring 2019 | John Stanton |
| CESG 526 | Spring 2018 | Jeffrey Berman |
| CEE 220 | Spring 2017 | Michael Motley |
| CEE 502 | Winter 2016 | John Stanton |

List of other teaching contributions

- FIU-ABC Webinar, November 8, 2019. “Evaluation of the Shear Strength of UHPC”.
- CEE 500 Structure’s Group Seminar Series – Autumn 2017, Winter 2019 and Winter 2020

- CEE 500 Seminar – Spring 2016. “Concepts and Technologies for Base Isolation of Buildings”.
- ERASMUS MUNDUS MASTER COURSE: “Advanced Design of Reinforced Concrete Structures” (Part of: Sustainable Constructions under Natural Hazards and Catastrophic Events), December 2016, University of Liege, Belgium. (Enrollment: 17; Hours of teaching: 30).

Other supporting documents

None

Teaching Awards, Nominations for Teaching Awards

- Teaching Assistant Award Nomination, 2013, Department of Civil and Environmental Engineering, University of Toronto
- Distinguished Teaching Award Nomination, 2019, University of Washington

SERVICE

Departmental service

- Graduate Coordinator, Structural Engineering and Mechanics group, 2021 – present
- Graduate Education Committee, 2021 – present
- Co-Graduate Advisor, Structural Engineering and Mechanics group, 2019 – present
- Valle Scholarship and Scandinavian Exchange Program Application Reviewer, 2020
- Structural Laboratory Associate Director, 2019 – present
- CEE Faculty Search Executive Committee – Structures (2019)
- CEE Undergraduate Scholarship Applications Reviewer – May 2019
- CEE Mentoring Committee (for Dr. Brett Maurer and Dr. Julian Yamaura), 2018 – present
- Faculty Affairs Committee, 2016 – 2021 (chaired in 2017)
- UW EERI Student Chapter Faculty Advisor, 2016 – present
- Undergraduate Admission Committee, 2016 and 2017
- Engineering Discovery Days, 2016 and 2017
- Structural Laboratory Committee, 2015 – present
- Graduate Education Committee, 2015 – 2016

College service

- UW STARS students Faculty mentor (NSF Grant “The Redshirt in Engineering Consortium), 2016 – present

University service

None

Professional society and other service

- Member of ACI “shear friction task group”, subtasks “Experimental database development” and “Design model development”, January 2022 - present
- Member of the Committee reviewing applications for postdoctoral research fellowships in Modelling and Engineering Risk and Complexity (MERC) at Scuola Superiore Meridionale (Naples, Italy), August-September 2021

- Member of Alaska Department of Transportation Committee AKB50, Standing Committee on Seismic Design and Performance of Bridges, April 2021 – present
- Panelist at Joint NHERI@UC San Diego - RAPID Researcher Workshop 2020, December 2020
- Session organizer, 17th World Conference on Earthquake Engineering (17WCEE), Sendai, Japan, September 2021
- Member of ACI Committee 374, Performance-Based Seismic Design of Concrete Buildings, April 2018 – present
- Member of ACI - Chester Paul Siess Award for Excellence in Structural Research (SA03), 2017 – 2019
- Member of the Scientific Committee (SC) for the IABSE Symposium in Vancouver, September 2017
- Professional Engineering Licence (Italy), 2011

Community service

- Member of working group investigating the collapse of the Morandi Bridge (Italy), 2018 – 2021.
- Provided expert advice for NAM "Scope item 30 - Expert system for building 2017" and "Scope item 34 - Coordination and technical assurance of TRI / ARMOX CWG product development" (06/2017 – 06/2018).
- Provided expert advice for Studio Calvi s.r.l. (Pavia, Italy). Seismic assessment of unreinforced masonry houses in the Groningen area (09/2017 – 09/2018).
- Provided expert advice for Studio Calvi s.r.l. (Pavia, Italy). Seismic assessment of unreinforced masonry church inventories in the Groningen area (09/2017 – 09/2018).
- Member of the EERI Reconnaissance (Central Italy Earthquake, August 24, 2016).
- Provided expert advice for Eucentre Foundation (Pavia, Italy). Development of preliminary assessment tools for damaged reinforced concrete bridge structures (12/2014 – 06/2015).
- Provided expert advice for Eucentre Foundation (Pavia, Italy). Preparation of preliminary guidelines for the mitigation of the seismic vulnerability of non-structural elements in school buildings in Italy (12/2014 – 06/2015).

International, national or governmental service

- National Science Foundation (NSF) Panelist. Proposal reviewed: 23. March 2018.
- Concrete Research Council (CRC) of the ACI Foundation Panelist. Proposal reviewed: 8. February 2020.
- External reviewer for the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR).

All other service

None