

FRAY FRANCISCO POZO-LORA, PH.D.

Curriculum Vitae [Updated on July 12, 2026]

Durham School of AE and Const. ♦ Peter Kiewit Institute PKI 134 ♦ 1110 S 67th St, Omaha, NE 68182

RESEARCHER IDS

Google Scholar <https://scholar.google.com/citations?user=1xiRP-wAAAAJ&hl>
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RESEARCH INTERESTS

Precast/prestressed concrete; FRP-reinforced concrete; Structural mechanics; Reliability analysis and code development; Digital fabrication with concrete.

EDUCATION

8/2021 Lincoln, NE	Ph.D. in Engineering – Construction Engineering & Management <i>University of Nebraska – Lincoln</i> Research Focus: Precast/Prestressed Concrete. Dissertation: “Flexural & Bond Performance of Pre-Tensioned Beams Reinforced with 1.125-inch Diameter Prestressing Strands.”
7/2018 Logan, UT	M.S. in Civil and Environmental Engineering <i>Utah State University</i> Concentration: Structural Engineering and Mechanics. Thesis: “On Thermal Bowing of Concrete Sandwich Wall Panels with Flexible Shear Connectors.”
8/2014 Dominican Rep.	Civil Engineer Diploma [Cum Laude] <i>Universidad Autonoma de Santo Domingo</i> 240-credit program meeting NCEES Standard.

FULL-TIME ACADEMIC APPOINTMENTS

9/2025 - Present Omaha, NE	Senior Research Associate <i>University of Nebraska – Lincoln (Scott Campus)</i> <i>Durham School of Architectural Engineering and Construction</i>
9/2024 - 8/2025 Miami, FL	Visiting Research Assistant Professor <i>Florida International University</i> <i>Department of Civil & Environmental Engineering</i>
3/2023 - 9/2024 Omaha, NE	Postdoctoral Associate <i>University of Nebraska – Lincoln (Scott Campus)</i> <i>Durham School of Architectural Engineering and Construction</i>

Journal Articles

- [1] Z. Ebrahim, **F. F. Pozo-Lora**, and M. Maguire, "Investigating the potential of predicting field performance of commercially available high early strength materials for concrete deck repair using experimental data," *Journal of Structural Design and Construction Practice*, vol. 31, no. 2, p. 04 026 019, 2026. DOI: [10.1061/JSDCCC.SCENG-2006](https://doi.org/10.1061/JSDCCC.SCENG-2006).
- [2] M. Al-Bayati, S. Al-Rubaye, **F. F. Pozo-Lora**, B. Bean, and M. Maguire, "Exploring variations in design methods for service design of insulated concrete wall panels," *Engineering Structures*, vol. 340, p. 120 719, 2025, ISSN: 0141-0296. DOI: [10.1016/j.engstruct.2025.120719](https://doi.org/10.1016/j.engstruct.2025.120719).
- [3] **F. F. Pozo-Lora**, A. Awawadeh, M. F. Tahat, S. Al-Rubaye, and M. Maguire, "A comprehensive approach to establishing a standard test method for evaluating insulated wall panel wythe connector performance," *PCI Journal*, vol. 70, 6 Nov. 2025, ISSN: 0887-9672. DOI: [10.15554/pcij70.6-02](https://doi.org/10.15554/pcij70.6-02).
- [4] **F. F. Pozo-Lora**, M. Maguire, M. W. Halling, and P. J. Barr, "Flexural performance of bridge girders constructed with multiple 19-wire-28.6-mm-diameter, grade 1780 strands, and self-consolidating concrete," *Journal of Structural Design and Construction Practice*, vol. 30, p. 04 025 042, 3 Aug. 2025. DOI: [10.1061/JSDCCC.SCENG-1697](https://doi.org/10.1061/JSDCCC.SCENG-1697).
- [5] **F. F. Pozo-Lora**, M. Maguire, A. D. Sorensen, M. W. Halling, and P. J. Barr, "Experimental evaluation of the transfer and development length of 28.6 mm diameter grade 1780 strands in normal strength concrete," *Construction and Building Materials*, vol. 489, p. 142 243, 2025, ISSN: 0950-0618. DOI: [10.1016/j.conbuildmat.2025.142243](https://doi.org/10.1016/j.conbuildmat.2025.142243).
- [6] **F. F. Pozo-Lora**, T. J. Sorensen, S. Al-Rubaye, and M. Maguire, "State-of-the-art and practice review in concrete sandwich wall panels: Materials, design, and construction methods," *Sustainability*, vol. 17, p. 3704, 8 Apr. 2025, ISSN: 2071-1050. DOI: [10.3390/su17083704](https://doi.org/10.3390/su17083704).
- [7] M. F. Tahat, **F. F. Pozo-Lora**, S. Al-Rubaye, and M. Maguire, "On the reliability of precast insulated wall panel horizontal shear limit state," *Journal of Structural Engineering*, 2025, Accepted for publication, ISSN: 1943-541X. DOI: [10.1061/JSENDH.STENG-14714](https://doi.org/10.1061/JSENDH.STENG-14714).
- [8] **F. F. Pozo-Lora**, M. Maguire, A. D. Sorensen, M. W. Halling, and P. J. Barr, "Benchmarking the bond of 19-wire-28.6-mm-diameter prestressing strands to normal-weight concrete," *Journal of Materials in Civil Engineering*, vol. 36, 11 Nov. 2024, ISSN: 0899-1561. DOI: [10.1061/JMCEE7.MTENG-18044](https://doi.org/10.1061/JMCEE7.MTENG-18044).
- [9] J. Luebke, **F. F. Pozo-Lora**, S. Al-Rubaye, and M. Maguire, "Out-of-plane flexural behavior of insulated wall panels constructed with large insulation thicknesses," *Materials*, vol. 16, p. 4160, 11 Jun. 2023, ISSN: 1996-1944. DOI: [10.3390/ma16114160](https://doi.org/10.3390/ma16114160).
- [10] J. W. McRory, **F. F. Pozo-Lora**, Z. Benson, R. Tawadrous, and M. Maguire, "Behavior of hybrid reinforced concrete bridge decks under static and fatigue loading," *Polymers*, vol. 14, p. 5153, 23 Nov. 2022, ISSN: 2073-4360. DOI: [10.3390/polym14235153](https://doi.org/10.3390/polym14235153).
- [11] **F. F. Pozo-Lora** and M. Maguire, "Determination of the mechanical properties of flexible connectors for use in insulated concrete wall panels," *JoVE*, e64292, 188 2022, ISSN: 1940-087X. DOI: [doi:10.3791/64292](https://doi.org/doi:10.3791/64292).
- [12] **F. Pozo-Lora** and M. Maguire, "Thermal bowing of concrete sandwich panels with flexible shear connectors," *Journal of Building Engineering*, vol. 29, p. 101 124, May 2020, ISSN: 23527102. DOI: [10.1016/j.jobe.2019.101124](https://doi.org/10.1016/j.jobe.2019.101124).

- [13] B. Cox, P. Syndergaard, S. Al-Rubaye, **F. F. Pozo-Lora**, R. Tawadrous, and M. Maguire, “Lumped gfrp star connector system for partial composite action in insulated precast concrete sandwich panels,” *Composite Structures*, vol. 229, p. 111 465, Dec. 2019, ISSN: 02638223. DOI: [10.1016/j.compstruct.2019.111465](https://doi.org/10.1016/j.compstruct.2019.111465).

Articles in Preparation or Under Review

1. M. Taveras-Montero, Maguire, M., & **F. F. Pozo-Lora**. Developing material models for reinforced concrete in the Dominican Republic. **To be submitted to Construction and Building Materials in July 2026.**
2. Al-Maabreh, A., **Pozo-Lora, F.F.**, & Maguire, M. Behavior of wythe connectors in concrete sandwich wall panels subjected to out-of-plane point loads. **Submitted to the Journal of Building Engineering in March 2026.**
3. Al-Maabreh, A., **Pozo-Lora, F.F.**, Maguire, M., & Restrepo, J.I. Cyclical Behavior of shear connectors in concrete sandwich wall panels. **Submitted to the Journal of Structural Engineering in April 2026.**
4. Al-Maabreh, A., **Pozo-Lora, F.F.**, & Maguire, M. Wythe connector behavior on axially loaded concrete sandwich wall panels. **Submitted to the Journal of Architectural Engineering in July 2026.**
5. Al-Rubaye, S., **Pozo-Lora, F.F.**, & Maguire, M. Structural Testing of Slender Concrete Sandwich Wall Panels Including the $P-\delta$ Effect. **Submitted to the Journal of Structural Engineering in July 2026.**
6. Al-Rubaye, S., **Pozo-Lora, F.F.**, & Maguire, M. Modified slender wall method to design concrete sandwich wall panels. **Working paper.**
7. Tahat, M., Binard, J.P., Davis, R., **Pozo-Lora, F. F.**, & Maguire, M. An innovative method for Determining the Early Age Creep Coefficient and Shrinkage Stresses in Mildly Reinforced Concrete Structural Members. **Submitted to MethodsX in July 2026.**
8. Tahat, M., Binard, J.P., Davis, R., **Pozo-Lora, F. F.**, & Maguire, M. Performance evaluation of Ultra-High Performance Concrete (UHPC) Bridge Decks. **In preparation: draft in review by co-authors.**

Trade Magazine Articles

- [1] M. Maguire and **F. F. Pozo-Lora**, “Partially composite concrete sandwich wall panels,” *Concrete International*, vol. 42, pp. 47–52, 10 2020, ISSN: 0162-4075. [Online]. Available: <https://www.concrete.org/publications/internationalconcreteabstractsportal.aspx?m=details&ID=51728201>.

Conference Articles

- [1] A. Awawdeh, **F. F. Pozo-Lora**, and M. Maguire, “Inter-wythe slip design criteria for non-composite insulated walls,” in *2023 PCI Convention at the Precast Show*, PCI, 2023. [Online]. Available: <https://digitalcommons.unl.edu/archengfacpub/204/>.

- [2] A. Al-Maabreh, **F. F. Pozo-Lora**, and M. Maguire, “Inter-wythe slip design criteria for non-composite insulated walls,” in *2023 PCI Convention at the Precast Show*, PCI, 2023. [Online]. Available: <https://digitalcommons.unl.edu/archengfacpub/205/>.
- [3] **F. F. Pozo-Lora**, S. Al-Rubaye, and M. Maguire, “Parametric study of pre-tensioned girders reinforced with 19-wire 1-1/8” diameter prestressing strands,” in *2021 PCI Convention - Innovations in Precast Concrete Components*, Precast Concrete Institute, 2021, pp. 1–15. [Online]. Available: https://ems-www.pci.org/PCI_Docs/Papers/2021/Paper_Pozo-Lora.pdf.
- [4] **F. F. Pozo-Lora** and M. Maguire, “Flexural behavior of continuous non-loadbearing insulated wall panels,” in *2019 PCI/NBC*, PCI, Sep. 2019, p. 15. [Online]. Available: https://www.pci.org/PCI_Docs/Papers/2019/22_Final_Paper%20Pozo-Lora%20Maguire.pdf.
- [5] R. Tavakoli, A. Echols, U. Pratik, Z. Pantic, **F. Pozo**, A. Malakooti, and M. Maguire, “Magnetizable concrete composite materials for road-embedded wireless power transfer pads,” in *2017 IEEE Energy Conversion Congress and Exposition, ECCE 2017*, vol. 2017-Janua, 2017, ISBN: 9781509029983. DOI: [10.1109/ECCE.2017.8096705](https://doi.org/10.1109/ECCE.2017.8096705).

Conference and congress presentations

1. **Pozo-Lora, F. F.** & Taveras-Montero, M.A. (2022). Development of the Resistance Factors for the Dominican Republic Code of Concrete Structures. UASD International Research Congress (In Spanish).
2. **Pozo-Lora, F. F.** (2021). Parametric Study of Pre-Tensioned Girders Reinforced with 19-Wire 1-1/8” Diameter Prestressing Strands. 2021 PCI Convention - Innovations in Precast Concrete Components.
3. **Pozo-Lora, F. F.** (2019). Flexural Behavior of Continuous Non-Loadbearing Insulated Wall Panels. 2019 PCI/NBC, 15.

AWARDS AND HONORS

- 2026 **PCI's 2026 George D. Nasser Award** for the paper “A comprehensive approach to establishing a standard test method for evaluating insulated wall panel wythe connector performance.” PCI Journal. Precast & Prestressed Concrete Institute.
- 2022 **Outstanding Teacher:** Civil Engineering School, Universidad Iberoamericana, Dominican Republic.
- 2016 **Dominican Republic's Ministry of Higher Education, Science & Technology Scholarship:** Received \$65,905 of merit-based funding to study a master's degree at USU.

SERVICE

- 2024 - Present* **Consulting Committee Member**
 Precast Concrete Institute
 - Consulting in the area of Precast Insulated Wall Panels (PIWPs).
- 2023 - Present* **Journal Peer Reviewer**
 - ACI Structural Journal.
 - ASCE Journal of Bridge Engineering.
 - ASCE Journal of Materials in Civil Engineering.

- ASCE Journal of Structural Design and Construction Practice.
- Elsevier Engineering Structures.
- MDPI: Applied Sciences, Buildings, Infrastructures, and Sustainability.
- Taylor & Francis: Journal of Natural Fibers.

2022 - 2026 Research Proposals Reviewer

Ministry of Higher Education, Science and Technology of the Dominican Republic

- Reviewed and rated proposals multiple times.

PROFESSIONAL MEMBERSHIPS

2021 Member of the American Concrete Institute (1376516): Faculty Network.

2019 Member of the National Career of Researchers of the Ministry of Education, Science & Technology of the Dominican Republic. Career Number: 0724

2016 Member of the Precast Concrete Institute.

2015 Professional Engineer (License # _____ Dominican College of Engineers, Architects, and Land Surveyors (CODIA, acronym in Spanish.)

TEACHING EXPERIENCE

All teaching experience outlined here was gained as an adjunct professor while being a structural design engineer.

Pontificia Universidad Catolica Madre y Maestra (PUCMM): Undergraduate Level

Role	Code	Name	Term
Instructor	ICV-425	Structural Design IV	Sum 21
Instructor	ICV-421	Reinforced Concrete Structures II	Sp 2022
Instructor	ICV-322	Structural Analysis I	Sum 21, Sp 22 (x2), Fall 22
Instructor	ICV-323	Structural Analysis II	Fall 21, Sum 22
Instructor	ICV-325	Structural Dynamics	Fall 22

Universidad Iberoamericana (UNIBE): Undergraduate Level

Role	Code	Name	Term
Instructor	IC4-703	Formwork Systems	Sum 2022
Instructor	IG1-212	Mechanics of Deformable Solids I	Sum 2021 (x2), Sum 2022
Instructor	IG1-310	Mechanics of Deformable Solids II	Fall 2021
Instructor	IC4-315	Reinforced Concrete I	Sum 2021
Instructor	IC4-313	Structural Analysis I	Sp 2022
Instructor	IC4-314	Structural Analysis II	Sum 2022

SOFTWARE

Software	AutoCAD, REVIT, ETABS, SAFE, SAP2000, Eriksson Wall, $\text{\LaTeX}$
Programming	Python, R, Excel VBA
Computation	MATLAB, MathCAD, Smath Studio

LANGUAGES

Spanish	Native
English	Fluent
Portuguese	Elementary to intermediate proficiency

STRUCTURAL DESIGN EXPERIENCE

1/2021 - 3/2023 Structural Engineer

Dominican Rep. Self-Employed

- Designed masonry, concrete, and steel structures for high seismic loads ($S_s = 1.55g$ and $S_1 = 0.75g$) and high wind loads ($v = 150-190$ mph), implementing ACI 318-19, ANSI/ASIC 360-16, 358-16, and 341, and TMS 402-16.
- Produced detailed construction drawings using AutoCAD and Revit, optimizing workflow and accuracy.
- Provided training on SAP2000 and Open Application Programming Interface (OAPI) to engineering professionals.

9/2015 - 8/2016 Project Engineer (Full-time)

Dominican Rep. Taveras Ingenieria & Servicios

- Designed masonry, concrete, and steel structures for high seismic loads ($S_s = 1.55g$ and $S_1 = 0.75g$) and high wind loads ($v = 150-190$ mph), implementing ACI 530-13, ACI 318-14, and ANSI/ASIC 360-10, 358-10, and 341-10.
- Participated in field surveys to obtain as-built dimensions of reinforced concrete buildings and their distress state, including corrosion, shear and flexural cracking, and alkali-silica reaction.
- Performed structural evaluations of reinforced concrete buildings and indicated structural retrofits following Dominican regulations.

9/2014 - 7/2015 Project Engineer (Full-time)

Dominican Rep. JCM & Asociados Ingenieros Civiles

- Designed and detailed masonry, concrete, and steel structures for high seismic loads ($S_s = 1.55g$ and $S_1 = 0.75g$) and high wind loads ($v = 160-190$ mph), implementing ACI 530-13, ACI 318-14, and ANSI/ASIC 360-10, 358-10, and 341-10.
- Performed structural evaluations of reinforced concrete and steel buildings following Dominican regulations.
- Inspected the construction of reinforced concrete buildings to ensure plans and technical specifications were followed.

ACADEMIC REFERENCES

References will be provided upon reasonable request.