

JOSE RAUL RINCON GARCIA

Postdoctoral Associate, Rice University
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EDUCATION

- Ph.D. in Civil Engineering, Rice University** Houston, TX, USA
Thesis: “Smart and Objective Modeling of Structure-to-Infrastructure Systems.” *Advisor and Committee Chair:* Jamie E. Padgett, PhD.
Committee members:
Pol D. Spanos, PhD. Leonardo Duenas-Osorio, PhD.
Vaibhav Unhelkar, PhD. Mauricio Sanchez-Silva, PhD.
August 2020 – August 2025
- M.Sc. in Civil Engineering, Universidad de los Andes** Bogotá, Colombia
Thesis: “Seismic vulnerability assessment of reinforced concrete buildings using non-linear dynamic analysis.” *Advisor:* Luis E. Yamin, PhD.
July, 2013 – June, 2015
- B.S. in Civil Engineering, Universidad de los Andes** Bogotá, Colombia
Thesis: “Design guide for buildings with steel plate shear walls and experimental test.” *Advisor:* Juan C. Reyes, PhD.
July, 2009 – June, 2013

HONORS/AWARDS

- **Ralph Budd Ph.D. Engineering Thesis Award**, George R. Brown School of Engineering and Computing April, 2026
- **Outstanding Paper Award (Category Scientific Paper)**, IABSE Journal Structural Engineering International June, 2025
- **IASSAR Best Student Paper Award**, 14th Intl. Conf. on Structural Safety and Reliability - ICOSSAR'25 June, 2025
- **Future Faculty Fellow**, George R. Brown School of Engineering July, 2024
- **1st Place EMI Objective Resilience Student Paper/Presentation Competition**, Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC 2024) May, 2024
- **Robert P. and Eleanor Warden Shubinski Awardee**, Rice University Spring, 2023
- **H. W. Reeves Endowed Scholarship Awardee**, Rice University Spring, 2021
- **Outstanding Journal Paper Award 2018**, ASCE Journal of Performance of Constructed Facilities January, 2020
- **Fulbright Scholar**, Fulbright-Minciencias (Colombia) August, 2019
- **Innovative Teacher Recognition**, Universidad de los Andes, Colombia June 20th, 2019
- **Mario Galan Gomez Scholarship**, granted by ECOPETROL, Colombia 2009 – 2013
2 best students selected per department, a total 70 countrywide

PUBLICATIONS

Journal Articles Published

1. Padgett JE, Rincon R, Panakkal P. (2024). “Future cities demand smart and equitable infrastructure resilience modeling perspectives.” *Npj Natural Hazards* 1, 28. <https://doi.org/10.1038/s44304-024-00028-5>.
2. Rincon R, Padgett JE. (2024) “Fragility modeling practices and their implications on risk and resilience analysis: from the structure to the network scale.” *Earthquake Spectra*, 40(1), 647–673. DOI:[10.1177/87552930231219220](https://doi.org/10.1177/87552930231219220).

3. Makhoul N, Roohi M, van de Lindt JW, Sousa H, Santos LO, Argyroudis S, Barbosa A, Derras B, Gardoni P, Lee JS, Mitoulis S, Moffett B, Navarro C, Padgett JE, **Rincon R**, Schmidt F, Shaban N, Stefanidou S, Tubaldi E, Xenidis Y, Zmigrodzki S. (2024) “Seismic resilience modelling of an interdependent built environment for integrating SHM and emerging technologies in decision-making.” *Structural Engineering International*, 34:1,19-33, DOI:[10.1080/10168664.2023.2295901](https://doi.org/10.1080/10168664.2023.2295901). 🏆 [Outstanding Paper Award, Category Scientific Paper, 2025]
4. Miura H, Matsuoka M, Reyes JC, Pulido N, Hashimoto M, Riaño AC, Hurtado A, **Rincon R**, García H, Lozano C. (2023) “Quick estimation model for mapping earthquake impacts in Bogotá, Colombia.” *ISPRS International Journal of Geo-Information*. 2023; 12(12):471. <https://doi.org/10.3390/ijgi12120471>.
5. **Rincon R**, Reyes JC, Carrillo J, Clavijo-Tocasuchyl A. (2022) “Empirical fragility assessment of adobe and rammed earth walls subjected to seismic actions.” *Earthquake Engineering & Structural Dynamics*, 51, no. 5 (2022): 1133–57. <https://doi.org/10.1002/eqe.3608>.
6. Buitrago-Flórez F, Reyes JC, **Rincon R**, Hernández C, Galvis FA, Ángel C. (2020). Engaging in homework development: TARSIS platform as an innovative learning methodology. *Australasian Journal of Educational Technology*, 36(3), 147-162. <https://doi.org/10.14742/ajet.5865>
7. Reyes JC, **Rincon R**, Yamin LE, Correal JF, Martínez JG, Sandoval JD, Gonzalez CD, Ángel CC. (2019). “Seismic retrofitting of existing earthen structures using steel plates.” *Construction and Building Materials*, 230, 117039. Elsevier. <https://doi.org/10.1016/j.conbuildmat.2019.117039>
8. Yamin LE, Reyes JC, Rueda R, Prada E, **Rincon R**, Herrera C, Daza J, Riaño AC. (2018). “Practical seismic microzonation in complex geological environments.” *Soil Dynamics and Earthquake Engineering*, 114, 480–494. Elsevier. <https://doi.org/10.1016/j.soildyn.2018.07.030>
9. Medina JM, Villate C, Caicedo B, Yamin LE, Correal JF, Estrada N, **Rincon R**. (2018). “Riesgo sísmico, geotécnico y estructural. El caso de estudio de los edificios San Jerónimo de Yuste en Bogotá.” *Informes de la Construcción*, 70(550): e251. <https://doi.org/10.3989/ic.16.131> (in Spanish)
10. Yamin LE, Correal JF, Reyes JC, Ramírez F, **Rincon R**, Hurtado AI, Dorado JF. (2018). “Sudden collapse of the 27-story space building in Medellín, Colombia.” *Journal of Performance of Constructed Facilities*, 32(3), 1–13. [https://doi.org/10.1061/\(ASCE\)CF.1943-5509.0001148](https://doi.org/10.1061/(ASCE)CF.1943-5509.0001148) 🌟 [Article Editor’s Choice] 🏆 [Outstanding Journal Paper Award for 2018]
11. Yamin LE, Hurtado AI, **Rincon R**, Dorado JF, Reyes JC. (2017). “Probabilistic seismic vulnerability assessment of buildings in terms of economic losses.” *Engineering Structures*, 138, 308–323. Elsevier. <https://doi.org/10.1016/j.engstruct.2017.02.013>

Journal Articles in Review

12. Patel JM, **Rincon R**, Padgett JE. (2026). “Parameterized Fragility Assessment of Coastal Structures: Capturing the Influence of Neighboring Structures.” *Journal of Structural Engineering*, In Review, July 2025.
13. **Rincon R**, Padgett JE. (2026). “Identifying submodel fidelity combinations that yield efficient multiscale models for infrastructure performance estimation.” *Reliability Engineering and System Safety*, In Review, August 2025.
14. Oh S, Zhao J, **Rincon R**, Padgett JE, Wang Z. (2026). “Phase Transitions in Collective Damage of Civil Structures under Natural Hazards.” *Nature Cities*, In Review, March 2026. [[Preprint](#)]

Conference Papers (* denotes presenter)

1. **Rincon R***, Padgett JE, and Duenas-Osorio L. (2025) “Attributed Graphs Preserve User Impacts on Network Performance Computation,” in: *14th International Conference on Structural Safety and Reliability - ICOSSAR25*, Los Angeles, CA, USA. URL: https://www.scipedia.com/public/Rincon_et_al_2025a. 🏆 [IASSAR 2025 Best Student Paper Award - Infrastructure Analysis group].

2. Oh S*, **Rincon R**, Padgett JE, and Wang Z. (2025) “Collective behaviors in regional seismic responses: insights from phase transitions in statistical physics,” in: *14th International Conference on Structural Safety and Reliability - ICOSSAR25*, Los Angeles, CA, USA. URL: https://www.scipedia.com/public/Oh_et_al_2025a.
3. **Rincon R***, Padgett JE. (2024). “Intelligent learning paradigms to enable adaptable seismic fragility and restoration models.” *18th World Conference on Earthquake Engineering*, Milan, Italy.
4. **Rincon R***, Padgett JE. (2024) “Coupling effects of fragility fidelity and network resolution in infrastructure resilience.” *Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference*, Chicago, IL. **🏆 [1st Place EMI Objective Resilience Student Paper/Presentation Competition]**.
5. **Rincon R***, Padgett JE. (2023). “Smart resilience: capturing dynamic, uncertain and evolving lifecycle conditions.” *8th International Symposium on Life-Cycle Civil Engineering*, Milan, Italy. In F. Biondini & D.M. Frangopol, *Life-Cycle of Structures and Infrastructure Systems* (1st ed., pp. 341–348). CRC Press. <https://doi.org/10.1201/9781003323020-39>.
6. **Rincon R***, Padgett JE. (2022) “Seismic reliability analysis of complex structural systems using system-level surrogate models.” *Proceedings of the 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT.
7. **Rincon R**, Reyes JC, Carrillo J, Clavijo-Tocasuchyl A*. (2022) “Towards fragility surfaces and data-driven capacity curves for earthen walls.” *10th Colombian National Conf. on Earthq.* Bogotá, Colombia (in Spanish).
8. Castaño M*, Correal JF, **Rincon R**. (2022) “Collapse fragility analysis of large prefabricated industrial moment resisting frame structures.” *10th Colombian National Conf. on Earthq.* Bogotá, Colombia (in Spanish).
9. Reyes JC*, Yamin LE, Rueda R, Prada E, **Rincon R**, Herrera C, Daza J, Riaño AC. (2019). “Seismic microzonation of the Medellin area using a probabilistic approach.” *VII International Conference on Earthquake Geotechnical Engineering*. Rome, Italy.
10. **Rincon R**, Yamin LE, Arboleda C, Oliveros C*, García AP, Galvis F. (2019) “Repair/replacement costs evaluation of post-earthquake affected bridges methodology.” *9th Colombian Natl Conf. on Earthq.* Cali, Colombia (in Spanish).
11. Yamin LE, Reyes JC, Echeverry J*, Correal J, Ramirez F, **Rincon R**, Galvis F, Prada E. (2019) “Seismic risk mitigation strategies for urban bridges.” *9th Colombian National Conf. on Earthq.* Cali, Colombia (in Spanish).
12. Rueda M*, **Rincon R**, Yamin LE. (2019) “Assessment of the seismic response of RC moment frames as a function of the intensity measure.” *9th Colombian National Conf. on Earthq.* Cali, Colombia (in Spanish).
13. Spinel J*, Reyes JC, **Rincon R**, Yamin LE. (2019) “Estimation of seismic demand parameters in existing unreinforced masonry housing units.” *9th Colombian National Conf. on Earthq.* Cali, Colombia (in Spanish).
14. Fernández R*, **Rincon R**, Yamin LE. (2019) “Uncertainty in the obtained benefits for different retrofitting alternatives.” *9th Colombian National Conf. on Earthq. Eng.* Cali, Colombia (in Spanish).
15. Aguirre L*, **Rincon R**. (2019) “Correlation between damage states of elements and their impact on seismic vulnerability.” *9th Colombian National Conf. on Earthq.* Cali, Colombia (in Spanish).
16. Yamin LE, **Rincon R***, Fernández RI, García AP, Reyes JC. (2018) “Repair cost and downtime seismic vulnerability assessment for RC school buildings.” *11th U.S. National Conference on Earthquake Engineering. Integrating Science, Engineering and Policy*. Los Angeles, CA, USA.
17. García A*, Yamin LE, **Rincon R**. (2017) “Topographic amplification effects in slope zones and its integration in seismic microzonation.” *8th Colombian Natl Conf. on Earthq.* Bogotá, Colombia (in Spanish).
18. Prada E*, Yamin LE, Rueda R, **Rincon R**. (2017) “Uncertainty in the one-dimensional dynamic response of soil basins for seismic microzonation.” *8th Colombian Natl Conf. on Earthq.* Bogotá, Colombia (in Spanish).
19. Aroquipa H*, **Rincon R**, Fernández R, Yamin LE. (2017) “Eval. of incremental seismic retrof. techniques for typical school buildings in Peru.” *8th Colombian Natl Conf. on Earthq.* Bogotá, Colombia (in Spanish).
20. **Rincon R***, Yamin LE, Becerra AF. (2017) “Seismic risk assessment of public schools and prioritization strategy for risk mitigation.” *16th World Conference on Earthquake Engineering*. Santiago de Chile, Chile.
21. Yamin LE*, Hurtado AI, **Rincon R**. (2017) “Controlling parameters in the assessment of the seismic vulnerability of buildings.” *16th World Conference on Earthquake Engineering*. Santiago de Chile, Chile.

22. **Rincon R***, Yamin LE, Hurtado AI, Pulido JF. (2015) "Seismic evaluation and performance of non-conventional structures: silos." 7th *Colombian Natl Conf. on Earthq.* Bogotá, Colombia (in Spanish).
23. Hurtado A*, Yamin LE, **Rincon R**, Pulido JF, Dorado JF, Reyes JC. (2015) "Incremental dynamic analysis, a tool for seismic vulnerability assessment of buildings." 7th *Colombian National Conf. on Earthq.* Bogotá, Colombia (in Spanish).
24. Dorado JF*, Yamin LE, Hurtado AI, **Rincon R**, Torres ID. (2015) "Cost model of structural and non-structural elements for the evaluation of the seismic vulnerability of reinforced concrete buildings." 7th *Colombian National Conf. on Earthq.* Bogotá, Colombia (in Spanish).
25. Pulido JF*, Yamin LE, **Rincon R**. (2015) "Seismic risk assessment of the main cities of Colombia." 7th *Colombian National Conf. on Earthq.* Bogotá, Colombia (in Spanish).
26. Yamin LE, Hurtado AI, **Rincon R**, Barbat AH, Reyes JC*. (2014) "Use of non-linear dynamic analysis in the assessment of the seismic vulnerability of buildings." 2nd *European Conference on Earthquake Engineering and Seismology*. Istanbul, Turkey.
27. Yamin LE, Hurtado AI, **Rincon R**, Pulido JF, Reyes JC, Barbat AH. (2014) "Evaluation of seismic code specifications using static nonlinear analyses of archetype buildings." 10th *U.S. National Conference on Earthquake Engineering*. Anchorage, Alaska, USA. (poster presentation delivered)

Book Chapters and Book Sections

1. **Rincon R**, Camacho R, Zuluaga S, Avalo A, Ramírez A. (2021) Section 2, Study Case N° 4. "Statics, a case of cross-sectional design of the evaluation system by Big Ideas theory" (Galvis A, Editor) *In Course design by Big Ideas, using active pedagogy and digital technologies*. In Spanish. ([Ebook, ISBN: 978-958-798-039-4](#)). Ediciones Uniandes-Universidad de los Andes.

Technical reports

1. Yamin L, **Rincon R**, Reyes J, Hurtado A, Tristancho J, Becerra J, Lopez L, Estrada J, Ramirez F, Atoche J, Daza L (2017). Technical note: "Seismic risk reduction strategy for public school buildings in Peru". in *Repository for Global Program for Safer Schools projects* from the Global Facility for Disaster Reduction and Recovery (GFDRR). [[Link](#)]

Datasets, algorithms, and others

1. Patel JM, Rincon R, Padgett JE (2026). A Report on Validation and Mesh Sensitivity Analysis of Computational Fluid Dynamics (CFD) Models. DesignSafe-CI. <https://doi.org/10.17603/ds2-f69h-5f03>
2. **Rincon R**, Padgett JE. (2026). "Identifying Efficient Submodel Fidelity Combinations". DesignSafe-CI. <https://doi.org/10.17603/ds2-32pd-6s63>
3. **Rincon R**, Padgett JE. (2025). "Network resilience trajectories (small scale simulation)", in Webinar material: Leveraging HPC Resources at DesignSafe-CI and Interoperability with IN-CORE for Resilience Assessment. DesignSafe-CI. <https://doi.org/10.17603/ds2-29f9-9085>
4. **Rincon R**, Padgett JE. (2025). "Network resilience trajectories (large scale simulation)", in Webinar material: Leveraging HPC Resources at DesignSafe-CI and Interoperability with IN-CORE for Resilience Assessment. DesignSafe-CI. <https://doi.org/10.17603/ds2-7ht6-ksi6>
5. **Rincon R**, Padgett JE. (2024) "Illustrative example of a hypothetical bridge network subjected to an earthquake hazard." in *IN-CORE on DesignSafe*. DesignSafe-CI. <https://doi.org/10.17603/ds2-cx62-ve21>
6. Padgett JE, **Rincon R**, Tafur A. (2024) "Reconnaissance of wind damage to buildings in downtown Houston, Texas." in *Reconnaissance of Wind Damage to Buildings in Downtown Houston, Texas*. DesignSafe-CI. <https://doi.org/10.17603/ds2-b36k-tf53>
7. **Rincon R**, Del-Castillo-Negrete C, Padgett JE. (2023) "ASCE INSPIRE 2023 - DesignSafe Workshop." DesignSafe-CI. <https://doi.org/10.17603/ds2-cejj-cx33>.

8. **Rincon R**, Padgett JE. (2023) "Jupyter Notebook for visualization of spatially distributed data in risk and resilience analysis." DesignSafe-CI. <https://doi.org/10.17603/ds2-a74m-g03i>.

LECTURES, SEMINARS, AND OTHER PRESENTATIONS

Invited Talks, Lectures, and Seminars

- NSF NHERI Graduate Student Council (2026). "Examining Infrastructure Failures in Socio-Physical Systems Using Attributed Graph Models" (virtual). NSF NHERI Graduate Student Council March General Body Meeting. Virtual, March 20, 2025.
- Universidad de los Andes, Colombia (2025). "Smart and Objective Modeling of Structure-to-Infrastructure Systems" (in Spanish). GEOSI-CIMOC Research Seminar. Bogotá, Colombia, October 24, 2025.
- Rice University (2025). "Attributed Graphs Preserve User Impacts on Network Performance Computation". AI for Climate Risk & Resilience Summer Seminar. Houston, TX, July 24, 2025.
- University of Colorado, Boulder (2025). "Adaptive and Equitable Modeling of Infrastructure Systems". Research Seminar. Boulder, CA, February 20, 2025.

Conferences, Symposia, and Poster presentations (* denotes presenters, without paper)

- **Rincon R***, Padgett JE, Sanchez-Silva M. (2026). "Life-cycle assessments that yield service and safety measures disaggregated by community features." EMI 2026 - *Engineering Mechanics Institute Conference, Boulder, CO*.
- **Rincon R***, Padgett JE. (2026). "Bias-based evaluation of sub-model fidelity integration effects on multiscale infrastructure resilience estimates." *2026 NHERI Computational Symposium, Berkeley, CA*.
- **Rincon R***, Padgett JE. (2025). "Resilience Assessment of Networked Systems Through Model Integration and Model Interoperability." *2025 NHERI Computational Symposium, Los Angeles, CA*.
- Oh S*, **Rincon R**, Padgett JE, and Wang Z. (2025) "Collective Behaviors and Phase Transitions in Regional Seismic Risk Metrics," *2025 NHERI Computational Symposium, Los Angeles, CA*.
- **Rincon R***, Padgett JE. (2024). "Toward conceptualization and evaluation of equitable resilience modeling." *Spring National Institute of Standards and Technology (NIST) Community Resilience Center of Excellence Semi-annual Meeting, Fort Collins, CO*.
- **Rincon R***, Padgett JE. (2023). "Exploration of biasedness and inequities in infrastructure resilience modeling." *ASCE INSPIRE Conference 2023, Arlington, VA*. Slides available at <https://doi.org/10.26226/m.65562ab611e6250019bbac80>.
- **Rincon R***, Padgett JE (2022). "Traditional and surrogate-based procedures for fragility functions derivation and their influence on network analysis." *2022 SimCenter Symposium, Austin, TX*.
- Reyes JC*, **Rincon R**, Yamin LE, Correal J, Echeverry J. (2019). "Behavior of adobe and rammed earth buildings and possible options for vulnerability mitigation." *Jornadas XVIII Geotécnicas y XXI Estructurales, Bucaramanga, Colombia*.

Workshops, Colloquiums, and Webinars (* denotes presenters)

- Padgett JE*, **Rincon R*** (2024). "Resilience Assessment of Community Infrastructure: Leveraging HPC Resources at DesignSafe-CI and Interoperability with IN-CORE" *Webinar: DesignSafe Webinars by NHERI DesignSafe Cyberinfrastructure, December 11, 2024*. [\[Link\]](#)
- Padgett JE*, **Rincon R***, Del-Castillo-Negrete C.* (2023). "Part II: Supporting infrastructure risk and resilience research through NHERI DesignSafe resources," *Workshop: IN-CORE and DesignSafe at ASCE INSPIRE Conference 2023, Arlington, VA*.
- Padgett JE*, **Rincon R*** (2022). "Facilitating seismic risk and resilience analysis in heterogenous and multi-scale systems," *4th Kenji Ishihara Colloquium Series on Earthquake Engineering: "Artificial Intelligence Applications in Earthquake Engineering."* San Diego, CA.

- Reyes JC*, Rincon R*. (2019). "Innovation in the structural systems analysis course for civil engineers," *Workshop on New Alternatives in Engineering Education*. School of Engineering, Universidad de los Andes. Bogotá, Colombia (in Spanish).
- Reyes JC*, **Rincon R***. (2019). "Active engagement of students in developing assignments using the TARSIS platform." *Cycle of Webinars - Exchange of experiences in blended and virtual courses*. Academic Vice-Presidency, Universidad de los Andes. Bogotá, Colombia (in Spanish).
- **Rincon R***, Camacho R*. (2018). "Innovation processes for the Statics course supported by Conecta-Te." *Dialogues on Participation in Innovation with Conecta-TE*. Department of Civil and Environmental Engineering, Universidad de los Andes. Bogotá, Colombia (in Spanish).
- Camacho R*, **Rincon R***. (2018). "Innovation processes for the Statics course supported by Conecta-Te." *Dialogues on participation in innovation with Conecta-TE*. Department of Mechanical Engineering, Universidad de los Andes. Bogotá, Colombia (in Spanish).

Conference, Special Session, Mini-Symposium, or Workshop Organization

- **Rincon R**, Padgett JE, Sanchez-Silva M, Dueñas-Osorio L, Frangopol DM. (2026) "Decision-making towards resilience on complex, uncertain, and evolving socio-physical systems." Co-organizer of mini symposium at *Engineering Mechanics Institute Conference (EMI 2026)*, Boulder, CO, June 2-5, 2026.

Poster presentations

- **Rincon R**, Padgett JE. (2025) "Bias-based comparison of sub-model fidelity and its compounded effect on infrastructure resilience estimates." *2025 CEE Industry and Research Showcase*, Houston, TX.
- **Rincon R**, Padgett JE. (2024) "Coupling effects of fragility fidelity and network resolution in infrastructure resilience." *2024 CEE Industry and Research Showcase*, Houston, TX.
- **Rincon R**, Padgett JE. (2023) "Smart resilience modeling as a path toward capturing the dynamic, uncertain and evolving life-cycle conditions of community infrastructure." *2023 CEE Industry and Research Showcase*, Houston, TX.
- **Rincon R**, Camacho R*. (2017). "Innovation for the Statics course using information and communication technology." *Innovation in Education with Information and Communication technology (ICT)*. School of Education and *Conecta-TE*, Universidad de los Andes. Bogotá, Colombia.

RESEARCH & WORK EXPERIENCE

Postdoctoral Associate , <i>Rice University</i> . Houston, TX, USA Padgett Research Group. PI: Jamie E. Padgett, PhD.	2025 - Present
Ph.D. Research Assistant , <i>Rice University</i> . Houston, TX, USA Padgett Research Group. PI: Jamie E. Padgett, PhD.	2020 - 2025
Research Assistant , <i>Universidad de los Andes</i> . Bogotá, Colombia Material and Civil Works Research Center (CIMOC). PI: Luis E. Yamin, PhD.	2015 - 2017
M.Sc. Research Assistant , <i>Universidad de los Andes</i> . Bogotá, Colombia Material and Civil Works Research Center (CIMOC). PI: Luis E. Yamin, PhD.	2013 - 2015
Co-founder , <i>CIVECO S.A.S</i> , Bogotá, Colombia Vulnerability assessment and design of residential and commercial buildings	2016 - 2019

Structural Engineer, Project Specialist, Ingeniería Técnica y Científica, Bogotá, Colombia 2013 - 2017
 Technical projects on risk analysis at structural, portfolio, and regional scales.

TEACHING EXPERIENCE

Lecturer, Universidad de los Andes, Bogotá D.C., Colombia Spring 2026
ICYA 1116 – Statics

Co-instructor, Rice University, Houston, TX, USA Fall 2025
CEVE 562 – Infrastructure Resilience to Multiple Hazards

Guest Lecturer, Rice University, Houston, TX, USA Fall 2024
CEVE 325 – Structural Analysis

Coordinator of the Resilience Seminar of the GSP, Rice University, Houston, TX, USA Fall 2022
Co-led the inaugural Resilience Seminar for the Gulf Scholars Program GSP@RICE

Full-time Lecturer (Instructor), Universidad de los Andes, Bogotá, Colombia 2017 – 2020
 Undergraduate courses:

- *ICYA 3202 Structural Design*: Theoretical reinforced concrete behavior, analysis and design of reinforced concrete elements (beams, columns, foundations), seismic design of structural systems (moment resisting frames), and reinforcement detailing. Aug. 2019 – Jul. 2020
- *ICYA 1117 Mechanics of Materials*: Stress-strain in materials, materials' behavior in the linear and non-linear range, serviceability and safety concepts, and evaluation of failure in simple elements or structures such as columns, beams, and frames. Jan. 2018 – Jul. 2020
- *ICYA 2203 Structural Analysis*: Displacements and internal forces in determined and undetermined structures when subjected to different loads (e.g., seismic, wind, self-weight, or temperature), types of structural systems, and computational analysis of structures such as buildings and bridges. Aug. 2017 – Jul. 2020
- *ICYA 1116 Statics*: Classical mechanics focusing on bodies in equilibrium, study of external and internal forces on simple elements, probabilistic capacity and demand concepts, and development of internal forces diagrams. Aug. 2017 – Aug. 2019

MENTORING EXPERIENCE

Member of the examining committee of 11 Master's degree students Thesis Defense, Universidad de los Andes 2016 – 2025

Research project advisor of undergraduate students, Universidad de los Andes

- Cristian Yesid Bula Peña. "Non-linear perf. analysis of tall buildings under seismic hazards."
 - Juan Camilo Vanegas Cañon. "Variation in design outcomes of tall buildings given the existing approximate fundamental vibration period equations."
 - Alejandra Clavijo Tocasuchyl. "Analysis of collapse risk considering the uncertainties in the fundamental vibration period."
- 2020

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| <ul style="list-style-type: none"> ▪ Daniel Castrillón Campo and Astrid Natalia Gutiérrez Bernal. “Tool for approximation of bridge’s super and substructure material quantities.” ▪ Angie Paola Oviedo Castaño and Luis Felipe Huertas Medina. “Preliminary investigation of new seismic design paradigms in Colombia: structural design using uniform collapse risk.” ▪ María Alejandra Ortiz Bernal. “Reinforced concrete frames subjected to tsunami loads.” ▪ Juan Sebastián Parra Tarache. “Indirect losses in a simplified bridge netw. under seismic events.” ▪ María Claudia González Clavijo. “Impact of existing approximate fundamental vibration period equations in the nonlinear dynamic analysis of combined systems.” ▪ Andrés Felipe Jiménez Caro. “Linear perf. analysis of tall buildings under seismic hazards.” ▪ Gustavo Turriago Méndez. “Preliminary fragility function for adobe and rammed earth walls.” | 2019 |
| <ul style="list-style-type: none"> ▪ Laura Cristina Aguirre García. “Components’ damage correlation and its impact to vulnerability.” ▪ María Paula Delgado Enríquez. “Seismic community resilience: preliminary evaluation of two existing methodologies applied to school buildings.” ▪ Karen Lorena Domínguez Tarazona. “Nonlinear dynamic analysis of isolated buildings”. ▪ Juan Sebastián López Bello. “Design of isolated buildings with concentrically braced steel frames.” ▪ Nicolás Parra Montaña. “Design of isolated buildings with reinforced concrete frames.” | 2018 |

PROFESSIONAL SERVICE

Reviewer for Indexed Journals

Structural Safety
 Earthquake Spectra
 International Journal of Disaster Risk Reduction
 ASCE Natural Hazards Review
 ASCE Journal of Performance of Constructed Facilities
 Structures
 Journal of Forecasting
 Pure and Applied Geophysics
 Journal of Building Engineering

Professional Technical Committees

Engineering Mechanics Institute (EMI) Objective Resilience Committee (ORC) (member since 04/2026)
 ASCE Civil Infrastructure and Lifeline Systems Committee (member since 07/2021)
 ASCE Risk and Resilience Measurements Committee (member since 07/2021)

Additional Professional Affiliations

Earthquake Engineering Research Institute (EERI), Member
 American Society of Civil Engineers, Member
 Colombian Association of Earthquake Engineering (Colombia), Member

UNIVERSITY SERVICE AND CONTRIBUTIONS

University Service, *Rice University*

- Mentor, PhD Peer-Mentoring Program, Center for Engineering Excellence through Equity (2025 -2026)
- Selected as [Graduate Student Representative for the 15-member Strategic Planning Committee](#): “Articulation of Rice’s vision for the next ten years” (2023-2024)

- President, Earthquake Engineering Research Institute – Rice University (2022 – 2025)
- President, Colombian Owls Student Association (2024 – 2025)
- President, Civil and Environmental Engineering Graduate Student Association (2023 – 2024)
- Officer, Civil and Environmental Engineering Graduate Student Association (2021 – 2023)
- Officer, Colombian Owls Student Association (2023 – present)
- Officer, Latin American Graduate Student Association (2022 – 2023)
- Leader of 'The Fulbright Ring' - Fulbright at Rice (2022 – 2023)
- Departmental Liaison Center for Teaching Excellence Graduate Advisory Board (2022 – 2023)