JOSE RAUL RINCON GARCIA

Postdoctoral Associate, Rice University
6100 Main St., Houston, TX, 77005

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EDUCATION

Ph.D. in Civil Engineering, Rice University
Thesis: "Smart and Objective Modeling of Structure-to-Infrastructure Systems." *Advisor*: Jamie E. Padgett, PhD.
Committee members:

Pol D. Spanos, PhD.   Leonardo Duenas-Osorio, PhD.
Vaibhav Unhelkar, PhD.   Mauricio Sanchez-Silva, PhD.

Houston, TX, USA
August 2020 – August 2025

M.Sc. in Civil Engineering, Universidad de los Andes
Thesis: "Seismic vulnerability assessment of reinforced concrete buildings using non-linear dynamic analysis." *Advisor*: Luis E. Yamin, PhD.

Bogotá, Colombia
July, 2013 – June, 2015

B.S. in Civil Engineering, Universidad de los Andes
Thesis: "Design guide for buildings with steel plate shear walls and experimental test." *Advisor*: Juan C. Reyes, PhD.

Bogotá, Colombia
July, 2009 – June, 2013

HONORS/AWARDS

- **Outstanding Paper Award (Category Scientific Paper)**, IABSE Journal Structural Engineering International — July, 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.
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. ⚥ **[Outstanding Paper Award, Category Scientific Papeer, 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 Medellin, Colombia." *Journal of Performance of Constructed Facilities*, 32(3), 1–13. 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. (2025). "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. (2025). "Bias quantification algorithm to measure the compounded effect of submodels' fidelity on multiscale infrastructure performance estimates." *Reliability Engineering and System Safety*, In Review, August 2025.

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.

Book Chapters and Book Sections

1. **Rincon R**, Camacho R, Zuluaga S, Avalo A, Ramírez A. (2021) Section 2, Study Case Nº 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. **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
2. **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-ks16
3. **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
4. 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
5. **Rincon R**, Del-Castillo-Negrete C, Padgett JE. (2023) "ASCE INSPIRE 2023 - DesignSafe Workshop." DesignSafe-CI. https://doi.org/10.17603/ds2-cejj-cx33.
6. **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-g031.

LECTURES, SEMINARS, AND OTHER PRESENTATIONS

Invited Talks, Lectures, and Seminars

- 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.
- 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. (2025). "Resilience Assessment of Networked Systems Through Model Integration and Model Interoperability." *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).

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.

- 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.

RESEARCH & WORK EXPERIENCE

Postdoctoral Associate, *Rice University*. Houston, TX, USA — 2025 - Present
Padgett Research Group. PI: Jamie E. Padgett, PhD.

Ph.D. Research Assistant, *Rice University*. Houston, TX, USA — 2020 - 2025
Padgett Research Group. PI: Jamie E. Padgett, PhD.

Research Assistant, *Universidad de los Andes*. Bogotá, Colombia — 2015 - 2017
Material and Civil Works Research Center (CIMOC). PI: Luis E. Yamin, PhD.

M.Sc. Research Assistant, *Universidad de los Andes*. Bogotá, Colombia — 2013 - 2015
Material and Civil Works Research Center (CIMOC). PI: Luis E. Yamin, PhD.

Co-founder, *CIVECO S.A.S*, Bogotá, Colombia — 2016 - 2019
Vulnerability assessment and design of residential and commercial buildings

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

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:

- *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

- *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

- *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

▪ *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 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
▪ 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
▪ 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 Montaño. "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
Journal of Forecasting
Journal of Building Engineering

November 2025

Professional Technical Committees

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*

- Selected as Graduate Student Representative for the 15-member Strategic Planning Committee: "Articulation of Rice's vision for the next ten years" (2023-2024)
- Mentor, PhD Peer-Mentoring Program, Center for Engineering Excellence through Equity (2025 -2026)
- President, Earthquake Engineering Research Institute – Rice University (2021 – 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)