DIANA G. RAMIREZ-RIOS, Ph.D.

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PROFILE SUMMARY

I am an assistant professor at the State University of New York at Buffalo with a Ph.D. in Transportation Engineering from Rensselaer Polytechnic Institute and a B.S.-M.S. in Industrial Engineering. I am passionate about policy-driven, empirical, and multidisciplinary research. My work focuses on freight transportation, supply chain and logistics, and humanitarian/disaster response logistics. My work includes freight demand modeling, parking vehicle simulation, facility location, post-disaster distribution modeling, and cooperative game-theoretic models. Practice and policy-driven research include evaluation of freight externalities, implementation of policy initiatives for sustainable urban freight systems, and cooperation models of industry supply chains. My empirical research includes the economic valuation for the lack of relief supplies in post-disaster response, freight trip generation and service trip generation models, and parking duration. I have strong theoretical foundations in operations research, statistical analyses, and economics.

My research work in freight and disaster response logistics considers the welfare of vulnerable communities. In my disaster response logistics work, I have proposed models that reduce the suffering of vulnerable populations affected by the disaster. I developed continuous-approximation models to solve the facility location (FL) problem, where the CA models of non-linear deprivation costs reduce the complexity of the FL model with continuously distributed demand. These models can be extended to stochastic formulations and dynamic time-dependent settings, common in disaster response. In the freight transportation side, I use empirically driven freight demand models to minimize the pollutants produced by freight vehicles to the communities. I develop optimal routing and location models for more sustainable modes of transportation for the last mile delivery. I also utilize simulation models in freight logistics, especially to estimate parking needs in urban areas.

ACCOMPLISHMENTS

May 2021: Karen and Lester Gerhardt Prize in Science and Engineering (1982) by RPI

This prize was established to honor a full-time engineering or science doctoral candidate who, by the originality and insights of his/her work, emphasizes the tradition of excellence that is Rensselaer Polytechnic Institute.

May 2021: Thomas Archibald Bedford Prize (1964) by RPI

Established by Clay P. Bedford in memory of his father, the prize is awarded at Commencement to a graduate student in civil engineering who has demonstrated high scholastic ability and has made a substantial contribution to the field.

April 2021: Member, Main Member Slot -- Standing Committee on Freight Transportation Data -- AED70

Appointment given by the Transportation Research Board for three years (April 15, 2021 - April 14, 2024)

April 2021: Member, Young Member Slot -- Standing Committee on Disaster Response, Emergency Evacuations, and Business Continuity -- AMR20

Appointment given by the Transportation Research Board for three years (April 15, 2021 - April 14, 2024)

October 2020: Helene M. Overly/ Leonard Braun Graduate Scholarship by WTS International

Established in 1981 by WTS International to encourage women to pursue career paths in transportation. The scholarship is awarded to women pursuing graduate studies in transportation or a related field.

November 2020: Women in Operations Research - Bayer Scholarship by INFORMS Analytics Society.

Scholarship awarded to women graduates whose work exemplifies the practice of operations research or analytics.

October 2019: CEE-MIT Rising Stars

The Civil and Environmental Engineering at MIT invites top early career womxn in CEE and related domains (e.g. materials, systems, or environmental science) who are interested in careers in academia to apply to the CEE Rising Stars Workshop to be held on the MIT campus.

May 2018: ENO Fellow – Eno Future Leaders in Transportation

Each year, the Eno Future Leaders Development Conference (LDC) gives 20 of the nation's top graduate students in transportation a first-hand look at how national transportation policies are developed. Those

selected as "Eno Fellows" come to Washington, DC for a week each spring.

April 2017: Finalist Franz Edelman Award for the Off-hour Delivery Program in New York City.
INFORMS Franz Edelman Competition showcases the six best advanced analytics and operations research projects of the year.

EDUCATION

December 2020 Rensselaer Polytechnic Institute, Troy, NY United States
Ph.D. in Transportation Engineering
Advisor: José Holguín-Veras, Ph.D.
Thesis: *A Discrete-Continuous Approximation Model for Optimal Facility Location in Disaster Response Logistics*

March 2009 Universidad del Norte, Barranquilla, Atlántico Colombia
M.S. in Industrial Engineering
Thesis: *Cooperative Game Theory Model for the Electrical Supply Chain in Colombia*
(Cooperación en la Cadena de Suministro de la Energía Eléctrica de Colombia)
Laureate Thesis Award
Advisor: Carlos Paternina-Arboleda, Ph.D.

September 2007 Universidad del Norte, Barranquilla, Atlántico Colombia
B.S. in Industrial Engineering
Thesis: *Game Theoretic Approaches to Parallel Machine Scheduling*
Meritorious Thesis Award
Advisor: Carlos Paternina-Arboleda, Ph.D.

CERTIFIED COURSES

June 15, 2018 Delft University of Technology, online through edX
Sustainable Urban Freight Transport: A Global Perspective

EMPLOYMENT HISTORY

2022 – present	Assistant Professor, University at Buffalo (SUNY), Buffalo, NY United States
2021 – 2022	Lecturer, Rensselaer Polytechnic Institute (RPI), Troy, NY United States
2015 – 2020	Research Assistant, Rensselaer Polytechnic Institute (RPI), Troy, NY United States
2009 – 2015	CFO and Researcher, FCIMEC Research Center, Barranquilla, Colombia
2011 – 2015	Adjunct Lecturer, Universidad de la Costa (CUC), Barranquilla, Colombia
2009 – 2010	Lecturer, Universidad del Norte, Barranquilla, Colombia
2007 – 2009	Teaching and Research Assistant, Universidad del Norte, Barranquilla, Colombia
2005 – 2007	Customer Service, Smurfit Carton de Colombia, Barranquilla, Colombia

RESEARCH

Projects

Proposals Approved and Funded as Principal Investigator

Project Title	Other Co-PIs	Dates	Funding	Sponsoring Agency
Exploring how transportation access to healthcare impacts social vulnerability in Puerto Rico.	William Wallace	2022	USD $36,500	NATURAL HAZARDS CENTER**
Cooperation scheme based on VMI practices for a two-echelon supply chain	Daniela Landinez	2013-2014	COP42.000.000 (USD14,000)	MINCIENCIAS*

Implementation of a System that Integrates Innovation in ENSACAR S.A., A Plastics Manufacturing Company Compromised with the Environment.	Ricardo Plata	2013-2015	COP224.722.000 (USD74,900)	MINCIENCIAS
Development of an Information System for the Management of Users of the Health System Administrated by the Secretary's District Office in Barranquilla	Luis Ramirez, Miguel Jimenez, Yojany Jimenez	2013-2015	COP670.552.000 (USD220,000)	MINCIENCIAS
Design, Develop, and Implement a Decision Support Tool for Construction Project Planners using Multi-Objective Optimization Modeling.	Fabio Monroy, Luis Ramirez	2012-2013	COP220.487.000 (USD73,500)	MINCIENCIAS
Redesign of the Transport of Hazardous Materials with the Design of a Mobile Hydrowashing Prototype and Development of Decision Support Tools for Optimal Routing Strategies	Linda Castro, Lauren Castro, Luis Ramirez, Jairo Montoya	2012-2015	COP750.000.000 (USD250,000)	MINCIENCIAS
Design and Implementation of Automated Distribution and Optimal Warehousing through the Incorporation of RFID Technologies at RETYCOL Laboratories	L.Ramirez, M. Jimenez	2011-2013	COP700.000.000 (USD233,000)	MINCIENCIAS

** Public Health Disaster Research Award Supported by the Natural Hazards Center at the University of Colorado Boulder with the support of the National Science Foundation and the Centers for Disease Control and Prevention.
*Colombian Ministry of Science, Research, Technology and Innovation (MINCIENCIAS)

Other Projects (Role: Researcher)

- NCHRP Project 08-111: Effective Decision-Making Methods for Freight-Efficient Land Use.
- NSF RAPID Collaborative: Role of Extending, Expanding, and Emergent Groups in Relief Distribution Efforts in the Aftermath of Hurricanes Harvey, Irma, and Maria., Field Investigation on Post-Disaster Response Logistics (2018 –2019).
- NYSERDA Off-Hour Delivery Trusted Vendor Program.
- NCFRP Project 44: Impacts of Policy-Induced Freight Modal Shifts.
- NSF RAPID Remote Sensing Decision Support System for Optimal Access Restoration in Post Disaster Environments.
- NSF RAPID Collaborative CDI-Type II: Cyber Enabled Discovery System for Advanced Multidisciplinary, Study of Humanitarian Logistics for Disaster Response.
- NCFRP Project 25: Using Commodity Flow Survey Microdata to Estimate the Generation of Freight, Freight Trip Generation, and Service Trips.
- Office of the Governor of Atlántico Department, Colombia: Develop Intelligent Systems for Freight Transportation Incorporated in a DSS for Urban Operations, Based on Heuristic Optimization Techniques (LOGPORT Caribe).

Research Papers

In Refereed Journals (Published)

#	Article
11	Holguín-Veras, J., L. Kalahasthi and D.G. Ramírez-Ríos (2021). "Service Trip Attraction in Commercial Establishments." ***Transportation Research Part E***.
10	Holguín-Veras, J., D.G. Ramírez-Ríos and S. Perez-Guzman (2021). "Time-Dependent Patterns in Freight Trip Generation". ***Transportation Research Part A***.
9	Holguín-Veras, J., D.G. Ramírez-Ríos, J. Ng, J. Wojtowicz, D. Haake, C.T. Lawson, O. Calderon-Quevedo and B. Caron (2021). "Freight-Efficient Land Uses: Methodology, Strategies, and Tools." ***Sustainability***.
8	Holguín-Veras, J., T. Encarnacion, D.G. Ramírez-Ríos, S. Perez-Guzman, L. Kalahashti, I. Sánchez-Diaz, C. González-Calderón and X. He (2020), "A Multi-Class Tour-Flow-Model and its Role in Multi-Class Freight Tour Synthesis." ***Transportation Science***, https://doi.org/10.1287/trsc.2019.0936
7	Holguín-Veras, J., S. Campbell, D.G. Ramírez-Ríos, C. González-Calderón, L. Kalahasthi, C.T. Lawson, J. Wojtowicz (2018), "Freight and Service Parking Needs and the Role of Demand Management", ***European Transport Research Review***, 10(2): 47, https://doi.org/10.1186/s12544-018-0309-5.
6	Guzmán Acuna, L., D.G. Ramírez-Ríos, C. Paternina-Arboleda and E. González Ponzón (2018) "Cooperation Model in the Electricity Energy Market using Bi-level Optimization and Shapley Value", ***Operations Research Perspectives***, doi: 10.1016/j.orp.2018.07.003.
5	Holguín-Veras, J., S. Hodge, J. Wojtowicz, et al (2018). "The New York City Off-Hour Deliveries Program: A Business and Community-Friendly Sustainability Program." ***INFORMS Journal of Applied Analytics (formerly known as Interfaces)***, 48(1), pp. 70-86.
4	Balza-Franco, V. C.D. Paternina-Arboleda, V. Cantillo, L.F. Macea and D.G. Ramírez-Ríos (2017), "A collaborative supply chain model for non-for-profit networks based on cooperative game theory", ***International Journal of Logistics Systems and Management***, 26(4), pp.476-496.
3	Ramírez-Ríos, D.G., N. Puello-Pereira, J. Ferro-Correa and S. Sankar Sana (2016). "A Cooperative Game Approach Applied to the Furniture Supply Chain Cluster for Improving its Competitive Value: A Case Study in Atlántico, Colombia". ***Control and Cybernetics*****,** 45(1).
2	Ramírez-Ríos, D.G., J.M. Daza-Escorcia, J. Visbal Martínez, C.D. Paternina-Arboleda and A. Garcia (2012). "The Dynamic Demand Game: A Markov State Fictitious Play Approach to a Two-Echelon Supply Chain Problem under Demand Uncertainty". ***International Journal of Industrial and Systems Engineering***, 10(3), 319-335.
1	Cure Vellojin, L. N., D.G. Ramírez-Ríos, M. C. Herrera-Hernández, C. D. Paternina-Arboleda and W.A. Miller (2011). "A Fictitious Play Algorithm Applied to a Retailer's Replenishment Decision Problem in a Two-Echelon Supply Chain". ***International Journal of Logistics Systems and Management*****,** 8(3), 247-266.

In Refereed Journals (Submitted/Under Review)

#	Article
3	D.G. Ramírez-Ríos and J. Holguín-Veras (2021), "Continuous-Approximation Models of the Deprivation Cost Function for Facility Location during Disaster Response." ***To be submitted to Transportation Science.***
2	Holguín-Veras, J., D.G. Ramírez-Ríos, L. N. Van Wassenhove, V. Cantillo, S. Pokharel, J. Amaya-Leal and T. Encarnacion (2021). "Exploratory Valuation of Anticipation Effects in Post-Disaster Environments." ***To be submitted to the Journal of Operations Management.***
1	Ramírez-Ríos, D.G., Holguín-Veras, J. and L. Kalahasthi (2021). "Time-of-Day On-Street Parking Requirements for Freight and Service Trips at Commercial Establishments". ***Under Review at Transportation Research Part A.***

In Refereed Journals (Working Papers)

#	Article
5	Ramírez-Ríos, D.G., T. Encarnacion, J.Amaya Leal, J. Holguín-Veras "Optimal POD location for Food Distribution in Disaster Response Logistics." To be submitted to the ***European Journal of Operational***

	Research.
4	Gonzalez-Feliu, J., and D.G. Ramírez-Ríos, "Freight Trip Attraction, Freight Trip Production, and Freight Trip Generation Models in the City of Paris." To be submitted to ***Econometrica***.
3	MacIver, L. and D.G. Ramírez-Ríos, "Freight Trip Generation in the City of Oakland's Industrial and Commercial Districts to Evaluate Potential Land Use Measures to Mitigate Air Pollution in Surrounding Communities." To be submitted to ***Transportation Research Part D***.
2	Oulmakki, O., H. Jammeli, and D.G. Ramírez-Ríos, "Truck-based Robot Delivery Using a Hierarchical Clustering Approach." To be submitted to ***Transportation Research Part E***.
1	Holguín-Veras, J., D.G. Ramírez-Ríos and T. Encarnacion, "Urban Freight Externalities: Contributing Factors and Agent Responsibilities." To be submitted to ***Transportation Research Part A***.

In Non-Refereed Journals (Published)

#	Article
3	Landinez-Lamadrid, D., **D.G. Ramírez-Ríos**, D. Neira Rodado, K. Parra Negrete, J.P. Combita Nino (2017). "Shapley Value: its Algorithms and Application to Supply Chains". *INGE CUC*, 15(1), pp.61-69.
2	**Ramírez-Ríos, D.G** and F. González. (2013), "Multi-objective Optimization of the Resource Constrained Project Scheduling Problem (RCPSP)", TIJCSA, *The International Journal Of Computer Science & Application.*
1	Gómez, L.S., **D.G. Ramírez-Ríos** (2012), "Global Bacteria Optimization: A Metaheuristic Inspired on Bacteria Photo taxis to Solve Multi-objective Optimization Problems", *International Journal of Advanced Research in Computer Science*.

Peer-Reviewed Book Chapters (Published)

#	Book Chapter
6	Holguín-Veras, J., T. Encarnación, Ramírez-Ríos, D.G., J. Amaya-Leal and F. Aros-Vera (2020). "Research Needs in Disaster Response Logistics," ***Handbook on Research Methods in Supply Chain Management***.
5	Holguín-Veras, J., Ramírez-Ríos, D.G. (2019). "Demand for Freight Transport," ***Encyclopedia of Transportation***.
4	Holguín-Veras, J., Ramírez-Ríos, D.G., T. Encarnación, J. González-Feliu, E. Caspersen, C. Rivera-González, C.A. González-Calderón, R. da Silva Lima (2018). "Metropolitan Economies and the Generation of Freight and Service Activity: An International Perspective". Chapter 02. In ***Urban Logistics: Management, Policy and Innovation in a Rapidly Changing Environment,*** ed. M. Browne, S. Behrends, J. Woxenius, G. Giuliano, J. Holguin-Veras (pp. 19-51).
3	Holguín-Veras, J, S. Campbell, C.G. González-Calderón, D.G. Ramírez-Ríos, L. Kalahasthi, F. Aros-Vera, M. Browne, I. Sanchez-Diaz (2018), "Importance and Potential Applications of Freight and Service Activity Models", in ***City Logistics 1: New Opportunities and Challenges***, ed. E. Taniguchi and R.G. Thompson, pp. 45–63, ISTE Ltd and John Wiley & Sons.
2	Herazo-Padilla, N., Montoya-Torres, J., Nieto-Isaza, S., Ramirez Polo, L., Castro, L., Ramírez, D. and Quintero-Araújo, C. (2015). Simulation-Based Analysis of Urban Freight Transport with Stochastic Features. In ***Enterprise Interoperability*** (eds M. Lauras, M. Zelm, B. Archimède, F. Bénaben and G. Doumeingts). doi:10.1002/9781119081418.ch24
1	Ramírez-Ríos, D.G., L. P. Manotas Romero, J. R. Montoya-Torres (2014). "Multi-criteria Optimization in a Typical Multi-Isle Warehouse with Multiple Racks". In: Plakhov A., Tchemisova T., Freitas A. (eds) ***Optimization in the Natural Sciences***. EmC-ONS 2014. Communications in Computer and Information Science, vol 499. Springer, Cham.

Guidebooks

#	Article
2	Holguín-Veras, J., C. Lawson, C. Wang, M. Jaller, C. González-Calderón, S. Campbell, L. Kalahashti, J. Wojtowicz and D.G. Ramírez-Ríos (2016). "NCFRP Project 25(01) Guidebook: Using Commodity Flow Survey Microdata to Estimate the Generation of Freight, Freight Trip Generation, and Service Trips". ***Transportation Research Board.*** National Cooperative Highway Research Program / National Cooperative

	Freight Research Program. Transportation Research Board of the National Academies.
1	Holguín-Veras, J., C. Wang, J. Ng, D. Ramírez-Ríos, J. Wojtowicz, O. Calderón-Quevedo, B. Caron, C. Rivera-González, S. Pérez, J. Schmid, W. Kim, C. Lawson and D. Haake (2020). Planning Freight-Efficient Land Uses: Methodology, Strategies, and Tools: Guidebook. ***Transportation Research Board.*** National Cooperative Highway Research Program NCHRP Project 08-111. E. a. M. Transportation Research Board of the National Academies of Sciences. https://cite.rpi.edu/FELU-GUIDE.

Conference Proceedings

#	Conference Proceeding
6	Holguín-Veras, J, D.G. Ramírez-Ríos, L. Kalahasthi, et al (2019), Quantification of Freight and Service Activity Trends in Cities, Transportation Research Board, 97th Annual Meeting, Washington DC.
5	Wang ,X., D.G. Ramírez-Ríos, C. Rivera-González, J. Schmid (2019), Public Opinion Towards Crowd Deliveries in New York State, Transportation Research Board, 97th Annual Meeting, Washington DC.
4	Holguín-Veras, J., S. Campbell, D.G. Ramírez-Ríos, C. González-Calderón, L. Kalahasthi and J. Wojtowicz (2018), Freight and Service Parking Needs and the Role of Demand Management, Transportation Research Board, 96th Annual Meeting, Washington, D.C.
3	Holguín-Veras, J., S. Campbell, S., González-Calderón, C., D.G. Ramírez-Ríos, L. Kalahasthi, F. Aros-Vera, M. Browne and I. Sánchez-Díaz (2017), Importance and Potential Applications of Freight and Service Activity Models, Institute for City Logistics Conference, June 2017 Conference, Thailand.
2	Ramírez-Ríos, D.G., D. Landinez-Lamadrid, P.A. Consuegra, J.L. Garcia and L. Quintana (2015), A Cooperative Game Approach to a Production Planning Problem, Proceedings ICORES, Portugal.
1	Manotas Romero, L., D.G. Ramírez-Ríos, H. Perez-Logreira, L. Ramírez, Y.A. Jimenez Flórez (2015), Data Mining for the Unique Identification of Patients in the National Healthcare Systems, Proceedings ICORES, Portugal.

Editorship of Journals, Review of Manuscripts, Books, Research Proposals, Curating, and Jurying of Exhibitions

CRP Panel Nomination

Program: National Cooperative Highway Research Program (NCHRP)
Research Proposal: Relaxation of Truck Weight Restrictions for Emergency Deliveries
Project: NCHRP 23-13(05)

Peer-Reviewed Journal Reviewer

2021-present
Journal of Humanitarian Logistics and Supply Chain Management (1)
Socio-Economic Planning Sciences (3)
Transportation Research Interdisciplinary Perspectives (1)

2019-present
Transportation Research Part E (2)
Networks and Spatial Economics (NETS) (2)

2018-present
Transportation Research Part A (5)

Peer-Reviewed Conference Paper Reviewer

2019-Present
Conference: Transportation Research Board Annual Meeting (23)

TEACHING EXPERIENCE

Rensselaer Polytechnic Institute, Troy, NY, United States
Industrial and Systems Engineering Department

Semester	Course Number (number of credits)	Course Title	# of Students	Mean Student Evaluation of the Course	Mean Student Evaluation of the Instructor
Fall 2021	ISYE 4600 01 (4 credits)	Operation Research Methods	27	N/A	N/A
Fall 2021	ISYE 6610 01 (3 credits)	Systems Modeling in DSES	6	N/A	N/A
Fall 2021	ISYE 4210 01 (3 credits)	Optimization Algorithms and Appl.	15	N/A	N/A
Fall 2021	ENGR 2600 03 (3 credits)	Modeling and Analysis of Uncertainty	63	N/A	N/A
Summer 2021	ISYE 4600 01 (4 credits)	Operation Research Methods	7	N/A	N/A
Spring 2021	ISYE 2210 01 (3 credits)	Production and Operations Mgmt	36	4.04/5.0	4.5/5.0
Spring 2021	ISYE 6610 01 (3 credits)	Design and Analysis of Supply Chains	14	4.4/5.0	4.4/5.0
Spring 2021	ISYE 4210 01 (3 credits)	Design and Mfg Sys & Supply Chains	16	3.86/5.0	4.14/5.0
Spring 2021	ENGR 2600 02 (3 credits)	Modeling and Analysis of Uncertainty	23	2.9/5.0	3.5/5.0

NEOMA Business School - Paris, France, Supply Chain Design & Simulation Course,
Master of Science Digital & Innovative Supply Chain, May 25-26, July 11,12, 2021.

Semester	Course Number	Course Title	# of Students	Mean Student Evaluation of the Instructor
Summer 2021	SC53043F	Supply Chain and Simulation Course	37	4.65/5.00

Universidad de la Costa, Barranquilla, Colombia
Industrial Engineering Department

Semester	Grad/UGrad (number of credits)	Course Title	# of Students	Mean Student Evaluation of the Course	Mean Student Evaluation of the Instructor
Spring 2015	UGrad (4)	Quality Control	67	N/A	N/A
Spring 2015	UGrad (4)	Operations Research I	35	N/A	N/A
Fall 2014	UGrad (4)	Quality Control	62	N/A	N/A
Fall 2014	UGrad (4)	Operations Research I	4	N/A	N/A
Fall 2014	Grad (18 hrs tot)	Management Tools	10	N/A	N/A
Spring 2014	UGrad (4)	Quality Control	33	N/A	N/A
Spring 2014	UGrad (4)	Operations Research II	17	N/A	N/A
Summer 2014	UGrad (4)	Operations Research II	20	N/A	N/A
Fall 2013	UGrad (4)	Quality Control	33	N/A	N/A
Fall 2013	UGrad (4)	Operations Research II	18	N/A	N/A
Fall 2013	UGrad (4)	Operations Research I	53	N/A	N/A
Spring 2013	UGrad (4)	Operations Research II	19	N/A	N/A
Spring 2013	UGrad (4)	Operations Research I	30	N/A	N/A
Fall 2012	UGrad (4)	Operations Research II	21	N/A	N/A
Fall 2012	UGrad (4)	Operations Research I	29	N/A	N/A

Spring 2012	UGrad (4)	Quality Control	47	N/A	N/A
Spring 2012	UGrad (4)	Production Systems	34	N/A	N/A
Fall 2011	UGrad (4)	Quality Control	39	N/A	N/A
Fall 2011	UGrad (4)	Quality Control Lab	19	N/A	N/A
Fall 2011	UGrad (4)	Operations Research II	35	N/A	N/A
Fall 2011	UGrad (4)	Business Logistics	20	N/A	N/A

Universidad Simon Bolivar Barranquilla, Colombia
Industrial Engineering Department- Master in Industrial Engineering

Semester	Grad/UGrad (number of credits)	Course Title	# of Students	Mean Student Evaluation of the Course	Mean Student Evaluation of the Instructor
Spring 2014	Grad (40 hrs tot)	Optimization Models	6	N/A	N/A
Fall 2012	Grad (40 hrs tot)	Optimization Models	25	N/A	N/A

Universidad del Norte, Barranquilla, Colombia
Industrial Engineering Department

Semester	Grad/UGrad (number of credits)	Course Title	# of Students	Mean Student Evaluation of the Course	Mean Student Evaluation of the Instructor
Fall 2009	UGrad (4)	Statistical Methods and Quantitative Analyses	90	N/A	N/A
Spring 2009	UGrad (4)	Operations Research II	40	N/A	N/A
Spring 2009	UGrad (4)	Operations Research I	113	N/A	N/A
Fall 2008	UGrad (4)	Operations Research I	85	N/A	N/A
Spring 2008	UGrad (4)	Operations Research I	174	N/A	N/A
Fall 2007	UGrad (4)	Operations Research I	20	N/A	N/A

Invited Talks

- U.S. Department of Transportation. Talking Freight Webinar: International Urban Freight (I-NUF) Conference Presentations, Part 1 – Curbside Delivery Challenges and Opportunities. "On-Street Parking Requirements for Freight and Service Activity." November 20, 2019. https://www.fhwa.dot.gov/planning/freight_planning/talking_freight/november_2019/
- Urban Freight Modeling, Webinar presented for the Course in "Urban Freight Logistics" at Universidad del Valle, Cali, Colombia. August 16, 2019.
- Freight and Service Activity Generation Models in Urban Areas. Seminar Presented at Roma Tre University, Rome, Italy. March 21, 2019.
- Freight and Service Activity Generation Models. Seminar Presented at College of Metropolitan Transportation, Beijing University of Technology, Beijing, China. September, 2016.
- Optimization Models in Business, Seminar Presented at Universidad del Norte, 2013.
- Optimization Models in Operations, Seminar Presented at Universidad del Valle, 2009.

Mentorship

- Industrial and Systems Engineering (Academic Advisor), Rensselaer Polytechnic Institute
  26 undergraduate students (2018 Class)
- Undergraduate Research Program (Supervisor), Rensselaer Polytechnic Institute
  Anisha Halwai (Summer/Fall 2020), Autumn Grim (Spring 2020), Maria Cristina Contreras (Fall 2019-Summer 2020), Rebecca Kramer, Shane Christian (Fall 2019), Ana C. Nazario (Spring 2018-Spring 2019), Christopher Bacallao (Fall 2018), Carlos Villarreal (Summer 2018), Maya Sanders (Fall 2018), Carlos Power (Spring-Fall 2018), April Fallon (Spring 2018), Sofia Jacobs (2017), Maria Kozdroy (2017)
- Thesis Advisor, Universidad Tecnologica de Bolivar
  Marco Monsalve (MS Engineering), Nataly Puello (MS Engineering)
- Master Thesis Committee, Universidad de la Sabana

Nilson Herazo (MS Operations Management)

- Master Thesis Committee, Universidad del Norte
  Daniela Landinez, Stefany Arboleda (MS Industrial Engineering)
- Thesis Advisor/Co-advisor, Universidad de la Costa
  Juan David de la Hoz, Kevin Parra, Johanna Cómbita, Jose Daniel Ramos, Luis Villadiego, Oscar Romeros, Andrés Díaz Ortega, María Paz Colina (BS Industrial Engineering)
- Undergraduate Thesis Committee, Universidad de la Costa
  Wilson Castillo, Omer Ferrer, Cristian Andrés Martínez, Daniel Eduardo Medina, Nilson Herazo (BS Industrial Engineering)

Thesis Completed

Bachelors

Kevin A. Parra Negrete and Johanna P. Combita Nino, "Model to Measure Competitiveness of the Furniture Cluster in the Atlantico Department" (Original title: *Modelo para la medición de la competitividad en el Clúster de muebles del departamento del Atlántico*), 2016

Juan David de la Hoz, "Development of a Computational Tool for the Statistical Control by Attributes using Neural Networks for the Detection of Unstable Patterns in the Process" (Original title: *Desarrollo de una herramienta computacional para el control estadístico por atributos bajo una plataforma de redes neuronales en la detección de patrones de inestabilidad en los procesos.*), 2015.
B.S. in Industrial Engineering, Universidad de la Costa, Barranquilla, Colombia.

Andres Jose Diaz Ortega and Maria Paz Colina Borras, "Simulation Model Design to Evaluate the Kanban Methodology in the Door Production for the Company Energia Solar S.A. Barranquilla" (Original title: *Diseño de un Modelo de Simulacion para Evaluar la Metodologia Kanban en la Fabricacion de Puertas en la Empresa Energia Solar S.A. Barranquilla.*), 2015.
B.S. in Industrial Engineering, Universidad de la Costa, Barranquilla, Colombia.

Luis Carlos Villadiego Florez and Oscar Albero Romeros Valera, "Cooperation Strategy for the Generation of a Competitive Cluster Based on Cooperative Game Theory" (Original title: *Estrategia de Cooperacion para la Generacion de un Cluster Competitivo Basado en la Teoria de Juegos Cooperativo.*), 2015.
B.S. in Industrial Engineering, Universidad de la Costa, Barranquilla, Colombia.

Jose Daniel Ramos, "Design of a Quality Control System Under the ISO 9001 Regulation for the Production Process of Industrial Ventilation in the company Industrias Frigidaire Ltda. in Barranquilla" (Original title: *Diseño del Sistema de Gestion de la Calidad para el Proceso de Fabricacion de Ventilacion Industrial en la Empresa Industrias Frigadaire Ltda. Bajo la Norma ISO 9001 en la Ciudad de Barranquilla*), 2014.
B.S. in Industrial Engineering, Universidad de la Costa, Barranquilla, Colombia.

Masters

Marco Fabián Monsalve Rodríguez, "Total Quality Management and Productivity Model for the Formation of World Class Industrial Engineers" (Original title: *Modelo de Gestión de Calidad y Productividad para la Formación de Ingenieros industriales de Clase Mundial.*), 2015.
Masters in Engineering, Universidad Tecnológica de Bolívar, available at:
http://redcol.minciencias.gov.co/vufind/Record/UTB_ae31d9ce30dd615d0aa339afd0954440

Course and Curriculum Development

2021: Industrial and Systems Engineering Department, Rensselaer Polytechnic Institute, USA
ABET accreditation process
Tasks:

- Collected and analyzed ABET assessment data for the Production and Operations Management (POM) course.

2014-2015: Industrial Engineering Department, Universidad de la Costa, Barranquilla, Colombia
Quality Control Specialization (evening program)
Tasks:

- Directed and designed the Specialization in Quality Control
- Designed the courses' curriculum and course schedule
- Selected and assigned Professors to teach the courses
- Led the Education of Ministry visit for the accreditation

2007-2009: Industrial Engineering Department, Universidad del Norte, Barranquilla Colombia
ABET accreditation of the Department of Industrial Engineering
Tasks:

- Translated new curriculum to English
- Collected assessment data for several courses (i.e., Operations Research I/II, Quality Control)

PROFESSIONAL ORGANIZATIONS

2010 – present **Member** of INFORMS
Member of Minority Issues Forum
Board Member (2019-2021), Role: Junior VP of the Programs Committee
Member of Women in OR/MS

2016 – present Transportation Research Board (TRB)
Member of the Standing Committee on Freight Transportation Data -- AED70
Appointment date: 2021-2024
Young Member of the Standing Committee on Disaster Response, Emergency Evacuations, and Business Continuity -- AMR20
Appointment date: 2018-2024
Friend of the following TRB Standing Committees: Urban Freight Transportation, Congestion Pricing, Freight Transportation Economics and Regulation, Transportation in the Developing Countries, Transportation Demand Management.

2016 – present **Member** of the Production and Operations Management Society (POMS)
POMS Latin American Chapter (2018-present)
Board Member (2020-2022), Role: Secretary
POMS College of Humanitarian Operations and Crisis Management (2016-present)

2017 – present Women in Transportation Seminar (WTS)
Board Member of RPI-WTS chapter, Role: President (2019)
Board Member of RPI-WTS chapter, Role: Vice-President (2018)
Board Member of RPI-WTS chapter, Role: Secretary/Treasurer (2017)

2019 – 2020 **Member** of NECTAR (Network on European Communications and Transport Activity Research)

SUMMARY OF AWARDS

- 2021: Recipient of the Karen and Lester Gerhardt Prize in Science and Engineering (1982)- Rensselaer Polytechnic Institute
- 2021: Recipient of the Thomas Archibald Bedford Prize (1964) – Rensselaer Polytechnic Institute
- 2020: Recipient of the WTS Helene M. Overly/ Leonard Braun Graduate Scholarship
- 2020: Recipient of the Bayer Scholarship at INFORMS
- 2020: MIF Scholarship to attend INFORMS Annual Meeting and Doctoral Student Colloquia
- 2019: MIT CEE Rising Stars alumni
- 2019: Runner up (second place) at the 3-Minute Thesis Competition, RPI

- 2018: Eno Fellow – Eno Center for Transportation
- 2017: Edelman Award Finalist for the research on “The New York City Off-Hour Deliveries Program: A Business and Community-Friendly Sustainability Program”
- 2017-2019: Investigador Junior (Junior Researcher) recognition by COLCIENCIAS
- 2014-2019: Colfuturo-Colciencias Scholar for the Atlántico Region
- 2009: Master Thesis Laureate
- 2007: Meritorious Undergraduate Final Project
- 2006: Citizenship Award presented by the Radio Station "Los Fundadores"
- 2002: Omicron Delta Kappa- Emerging Leader Award, Oglethorpe University
- 2001: Paul Harris Fellow - Rotary International Honor
- 2001-2002: Georgia Rotary Student Scholar