

Trilce Encarnación

Supply Chain Management and Analytics, University of Missouri-St. Louis
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EDUCATION

- Ph.D.** Transportation Engineering, Rensselaer Polytechnic Institute, 2019.
- M.E.** Industrial and Management Engineering, Rensselaer Polytechnic Institute, 2017.
- M.S.** Scientific Computing, University of Puerto Rico at Mayaguez, 2006.
- Certificate** of Graduate Studies in Advanced Databases, 2003;
- B.S.** Systems Engineering and Computer Science *Cum Laude*, 2002;
Pontificia Universidad Católica Madre y Maestra, Dominican Republic.

ACADEMIC and PROFESSIONAL EXPERIENCE

- Assistant Professor** (Fall 2020-Current) Supply Chain and Analytics,
University of Missouri-St. Louis, St. Louis, MO.
- Researcher** (Fall 2014-Summer 2020) Center for Infrastructure, Transportation and
the Environment, Rensselaer Polytechnic Institute, Troy, NY.
- Commercial Planning Manager** (2013-2014) Banco Popular Dominicano, DR.
- Business Analytics Consultant** (2007-2012) Financial Services and Government, DR.
- Adjunct Professor** (Fall 2007- Spring 2014) Systems Engineering and Computer Science,
Pontificia Universidad Católica Madre y Maestra, Dominican Republic.
- Adjunct Professor** (Fall 2007- Spring 2014) Systems Engineering and Computer Science,
Pontificia Universidad Católica Madre y Maestra, Dominican Republic.
- Research and Teaching Assistant** (Fall 2004- Spring 2006) Mathematical Sciences,
University of Puerto Rico-Mayaguez.

HONORS and AWARDS

- 2020 Thomas Archibald Bedford Prize for Outstanding Research Achievements at RPI.
- 2019 INFORMS Analytics Women in Operations Research Scholarship Winner.
- 2019 INFORMS Transportation Science and Logistics Society PhD Workshop Scholarship.
- 2017 MIT Civil and Environmental Engineering Rising Stars.
- 2017 INFORMS Franz Edelman Award Finalist.
- 2017 Women's Transportation Seminar Helene M Overly Memorial Scholarship NY.
- 2017 Eno Center for Transportation Fellow.
- 2017 Conference of Minority Transportation Officials Eno Scholarship Award.
- 2017 INFORMS Analytics Analytical Scholar Competition Winner.
- 2015 Academic Excellence Award, Council of Supply Chain Management Professionals NY.
- 2006 Development Policy Fellow, Korea International Cooperation Agency.

RESEARCH INTERESTS: The development and use of econometric, analytical modeling and statistical analysis methods to guide decision making in humanitarian logistics. I am interested in improving disaster response efforts by leveraging on emerging data sources, including social media data. My research also explores the implications of behavioral considerations unique to post-disaster environments in relief operations.

TEACHING INTERESTS: Quantitative decision making and supply chain management. I developed courses in the areas of data mining and information retrieval, and have a strong record of mentoring student researchers, as well as fostering diversity in STEM education.

PUBLICATIONS

Published and Forthcoming Refereed Journal Articles

5. A Multi-Class Tour-Flow-Model and its Role in Multi-Class Freight Tour Synthesis. With J. Holguín-Veras, D. Ramirez-Rios, S. He, L. Kalahasthi, S. Perez-Guzman, I. Sanchez-Díaz, & C. González-Calderón. *Transportation Science*, 2020, Vol 54, No 3, pp 631–650.
4. User Perception of Fairness of Time-of-Day Pricing and other Typical Toll Discounts. With J. Holguín-Veras & C. González-Calderón. *Transportation Research Part A: Policy and Practice*, 2020, Vol 137, pp 560-581.
3. Mechanistic Identification of Freight Activity Stops from Global Positioning System Data. With J. Holguín-Veras, S. Perez-Guzman & X. Yang. *Transportation Research Record*, 2020, Vol 2674, Issue 4, pp 235-246.
2. Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. With J. Holguín-Veras, C. González-Calderón, J. Winebrake, C. Wang, S. Kyle, N. Herazo-Padilla, L. Kalahasthi, W. Adarme, V. Cantillo, H. Yoshizaki, R. Garrido, R. *Transportation Research Part D: Transport and Environment*, 2018, Vol 61, Part A, pp 84-103.
1. The New York City Off-Hour Delivery Program: A Business and Community-Friendly Sustainability Program. With J. Holguín-Veras, S. Hodge, W. Wojtowicz, C. Singh, C. Wang, M. Jaller, F. Aros-Vera, K. Ozbay, A. Weeks, M. Replogle, C. Ukegbu, J. Ban, M. Brom, S. Campbell, I. Sanchez-Díaz, C. González-Calderón, A. Kornhauser, M. Simon, S. McSherry, S. Rahman, X. Yang, D. Ramirez-Rios, L. Kalahashti, J. Amaya, M. Silas, B. Allen, & B. Cruz. *Interfaces*, 2018, Vol 48, Issue 1, pp 1-91.

Book Chapters

3. Research Needs in Disaster Response Logistics. With J. Holguín-Veras, D. Ramirez-Rios, J. Amaya, & F. Aros-Vera. In *Handbook of Research Methods on Supply Chain Management*, Edward Elgar Publishing. In Press.
2. Metropolitan Economies and the Generation of Freight and Service Activity: An International Perspective. With J. Holguín-Veras, D. Ramirez-Rios, J. Gonzalez-Feliu, E. Caspersen, C. Rivera-Gonzalez, C. Gonzalez-Calderon, & R. da Silva Lima. *Pages 19-50 of: Urban Logistics: Management, Policy and Innovation in a Rapidly Changing Environment*. Kogan, 2019.
1. Disaster Response Logistics: Chief Findings of Fieldwork Research. With J. Holguín-Veras, M. Jaller, F. Aros-Vera, J. Amaya, & T. Wachtendorf. *Pages 33-57 of: Advances in Managing Humanitarian Operations*. Springer, 2016.

Reports and Other Publications

3. *Remote Sensing Decision Support System for Optimal Access Restoration in Post Disaster Environments*. With J. Holguín-Veras, J. Wojtowicz, C. Axel, J. van Aardt, F. Aros-Vera, & X. Yang (2017) United States Department of Transportation, Office of the Assistant Secretary for Research and Technology, Washington, DC.

2. *Methodology to Quantify the Impacts of Congestion in Supply Chains in Latin American Cities*. With J. Holguín-Veras, C. González-Calderón, V. Cantillo, H. Yushizaki, & R. Garrido (2016) Inter-American Development Bank, Washington, DC.
1. *Impacts of Freight Parking Policies in Urban Areas: The Case of New York City*. With J. Holguín-Veras, J. Amaya, S. Kyle, & J. Wojtowicz (2016) University Transportation Research Center, The City College of New York, New York, NY.

RESEARCH ACTIVITIES

Sponsored Research Grants

Creation of non-parametric classification model based on localized analysis. Co-PI. National Fund For Innovation, Scientific and Technological Development, Dominican Republic, USD\$75,000 (40% of total), 08/2012-08/2013.

STUDENT MENTORING

Undergraduate Research Experience (Served as Primary Supervisor)

Rensselaer Polytechnic Institute

1. Aleisha Vera Ramos, IE, *Fall 2019*; Food Bank Network Design.
2. Maria Cristina Contreras, CEE, *Summer 2019 - Fall 2019*; Analysis of Donations after Hurricane Maria.
3. Zhaowen He, ME, *Summer 2019 - Fall 2019*; Impacts of Freight Parking Policy.
4. Thomas Su, CS, *Summer 2019*; Sentiment Analysis of Disaster Tweets.
5. Yutong Gao, CS, *Summer 2019*; Debris Clearance Simulation.
6. Yunym Zhang, ME, *Fall 2018*; Freight Microsimulation.
7. Jeffrey Ceballos, IS, *Fall 2018-Spring 2019*; Algorithms for GPS Data Processing.
8. Leith Schyberg, CEE, *Summer 2018*; Disaster News Analysis.
9. Ana Duque, IE, *Spring 2018*; Immediate Needs after Hurricane Maria.
10. Ana Nazario, IE, *Spring 2018 - Fall 2018*; Disaster Response Logistics.
11. Carlos Power, IT, *Spring 2018 - Fall 2018*; Disaster Response Logistics.
12. Jaiden Sakamoto, STS, *Spring 2018 - Fall 2018*; Food Bank Disaster Response.
13. Jeffrey Ding, CEE, *Fall 2017 - Spring 2018*; GIS Analysis of Freight Transportation.
14. Ruben McWilliams, CS, *Fall 2017*; Freight Mode Choice.
15. Sofia Jacobs, CEE, *Summer 2017 - Fall 2017*; Logistics Costs of Urban Deliveries.
16. Phil Castanares, CEE, *Summer 2017-Spring 2018*; GIS Analysis of Freight Activity.
17. Thomas Hirt, IE, *Summer 2017*; Materiel Convergence.
18. Maria Kozdroy, CEE, *Spring 2017*; Bangladesh Freight Demand Survey.
19. Morgan Avera, CEE, *Summer 2016-Spring 2018*; Freight Mode Choice.
20. Fabian Zourelis, ME, *Summer 2016*; Semantic Analysis of Disaster News.
21. Jonathan Greeman, CEE, *Summer 2015 - Spring 2017*; Freight Parking Simulation.
22. Sofia Kyle, CEE, *Spring 2015 - Fall 2015*; Supply Chain Congestion Cost.

TEACHING EXPERIENCE

Course Number	Course Title	Class	Semester	No. of Students	Overall Evaluation
<i>Supply Chain Management and Analytics Department University of Missouri-St. Louis</i>					
SCMA 3300 5	Business Analytics and Statistics	UG	Fall 2020	15	TBD
SCMA 3300 8	Business Analytics and Statistics	UG	Fall 2020	18	TBD
<i>Systems Engineering and Computer Science Department Pontificia Universidad Católica Madre y Maestra, Dominican Republic</i>					
ISC 446	Data Mining	UG	Spring 2014	19	4.7/5
ISC 349	Database Management Systems	UG	Spring 2014	16	4.9/5
ISC 349	Database Management Systems	UG	Fall 2013	20	4.8/5
ISC 446	Data Mining	UG	Spring 2013	17	4.9/5
ISC 349	Database Management Systems	UG	Spring 2013	20	4.8/5
ISC 349	Database Management Systems	UG	Fall 2012	19	5.0/5
ISC 349	Research Seminar	UG	Spring 2012	17	4.8/5
ISC 349	Database Management Systems	UG	Spring 2012	20	5.0/5
ISC 446	Data Mining	UG	Fall 2011	18	4.9/5
ISC 349	Database Management Systems	UG	Fall 2011	20	5.0/5
ISC 581	Research Seminar	UG	Spring 2011	16	4.9/5
ISC 349	Database Management Systems	UG	Spring 2011	19	4.9/5
ISC 446	Data Mining	UG	Fall 2010	20	4.9/5
ISC 349	Database Management Systems	UG	Fall 2010	17	4.9/5
ISC 581	Research Seminar	UG	Spring 2010	9	4.8/5
ISC 571	Capstone Project	UG	Spring 2010	10	4.8/5
ISC-219	Computational Logic	UG	Fall 2009	8	NA
ISC 583	Data and Knowledge Management	UG	Fall 2009	8	NA
ISC 583	Data and Knowledge Management	UG	Spring 2008	10	NA
ISC 479	Introduction to Databases	UG	Spring 2008	13	NA
ISC 479	Introduction to Databases	UG	Fall 2007	10	NA

PRESENTATIONS

Invited Talks

5. Keynote: Humanitarian Logistics Modeling. Mathematical Meeting of the Caribbean. Cartagena, Colombia (Online). September 2020.
4. Webinar: Impacts of the Covid-19 Pandemic on Purchasing of Critical Supplies: Roots and Measures to Mitigate "Panic Buying". Rensselaer Polytechnic Institute, Online. June 2020.
3. Guest Lecture: Impacts of Congestion in Supply Chains. Debbie and Jerry Ivy College of Business, Iowa State University. Ames, IA, USA. November 2018.
2. Edelman Award Reprise: The NYC Off-Hour Deliveries Program, a Business and Community Friendly Sustainability Program. INFORMS Annual Meeting, Houston, TX, November 2017.
1. Seminar: Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. College of Metropolitan Transportation, Beijing University of Technology. Beijing, China. September 2016.

Selected Conference Presentations

19. Encarnación, T., Holguín-Veras, J. Influencing Donation Choice in Social Networks After Disasters. INFORMS Annual Meeting, Seattle, WA, October 2019.
18. Encarnación, T., Holguín-Veras, J. Gonzalez-Calderon, C., Yang, X. "Estimating fuel consumption and environmental pollution of freight activities from GPS data". International Conference for Urban Freight Research (INUF), Long Beach, CA, October 2019.
17. Encarnación, T., Holguín-Veras, J., Influencing Donation Choice in Social Networks After Disasters. POMS Annual Conference, Washington, DC, May 2019.
16. Encarnación, T., Holguín-Veras, J., Horne, B. Media Coverage of Disasters: The Role of Social Affinity. POMS Annual Conference, Washington, DC, May 2019.
15. Encarnación, T., Holguín-Veras, J., Amaya, J., Ramirez-Rios, D. Role of Non-Established Groups in the Aftermath of Hurricanes Harvey, Irma, and Maria. INFORMS Annual Meeting, Phoenix, AZ, November 2018.
14. Encarnación, T., Holguín-Veras, J., Influencing Donation Choice in Social Networks After Disasters. INFORMS Annual Meeting, Phoenix, AZ, November 2018.
13. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. Advanced Studies Institute on Sustainable Urban Freight Systems, Troy, NY, August 2018.
12. Encarnación, T., Holguín-Veras, J., Amaya, J., Diana Ramirez-Rios, D. Role of Non-Established Groups in the Aftermath of Hurricanes Harvey, Irma, and Maria. POMS Annual Conference, Houston, TX, May 2018.
11. Encarnación, T., Holguín-Veras, J., Amaya, J. Comparative Study of Materiel Convergence after Disasters. POMS Annual Conference, Houston, TX, May 2018.
10. Encarnación, T., Holguín-Veras, J., et. al. Edelman Award Reprise: The NYC Off-Hour Deliveries Program, a Business and Community Friendly Sustainability Program. INFORMS Annual Meeting, Houston, TX, November 2017.
9. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Impacts of Congestion in Supply Chains. INFORMS Annual Meeting, Houston, TX, November 2017.
8. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Impacts of Congestion in Supply Chains. International Conference for Urban Freight Research (INUF), Long Beach, CA, October 2017.
7. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. International Conference for Urban Freight Research (INUF), Long Beach, CA, October 2017.
6. Encarnación, T., Freight Rail Rate Optimization using Bid-Response Models. INFORMS Conference on Analytics and Operations Research, Las Vegas, NV, April 2017.

5. Encarnación, T., Holguín-Veras, J., Salasznyk, P., Wojtowicz, J. Optimal Access Restoration in Post-Disaster Environments. Transportation Research Board Annual Meeting, Washington, DC, January 2017.
4. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. Transportation Research Board Annual Meeting, Washington, DC, January 2017.
3. Encarnación, T., Holguín-Veras, J., Amaya, J. Freight Microsimulation: Modeling Parking Behavior in New York City. INFORMS Annual Meeting, Nashville, TN. November 2016.
2. Encarnación, T., Holguín-Veras, J., Gonzalez-Calderon, C. Direct Impacts of Off-Hour Deliveries on Urban Freight Emissions. VREF Student Workshop, Yichang, China, September 2016.
1. Encarnación, T., Holguín-Veras, J., Amaya, J. Material Convergence and Willingness to Change: An Empirical Investigation. POMS Annual Conference, Orlando, FL, May 2016.

SERVICE

University Service

Founding President, Women's Transportation Seminar Student Chapter, Rensselaer Polytechnic Institute, September 2017-May 2019.

Coordinator, Undergraduate Research Program, Center for Infrastructure, Transportation and the Environment, Rensselaer Polytechnic Institute, 2015-2020.

Outreach at Rensselaer Polytechnic Institute

International Graduate Students Orientation, August 2019.

Delve into Engineering event for High Achieving High School Juniors, July 2018.

Design Your Future Day event for High School Girls interested in STEM, April 2018.

Webinar for Graduate Women in STEM, April 2018.

Mentor, *Engineer Ambassadors*, School of Engineering, Rensselaer Polytechnic Institute, September 2014-May 2019.

Organizer, Workshop on Disaster Response Logistics, Center for Infrastructure, Transportation and the Environment, Rensselaer Polytechnic Institute, November 2014.

Math Tutor, Mathematics Department, University of Puerto Rico-Mayaguez, 2005-2006.

Service to the Profession

Grant Reviews:

Ad-Hoc Reviewer for Decision, Risk and Management Sciences Program, Division of Social and Economic Sciences, National Science Foundation, 2020.

Panelist, Behavioral Traffic Safety Cooperative Research Program, Transportation Research Board, National Academies of Science, Engineering and Medicine, 2018-2020.

Officer Positions:

Secretary, College of Humanitarian Operations and Crisis Management,
Production and Operations Management Society, 2020-2022.

Vice President of Programs, Minority Issues Forum, INFORMS, 2020-2021.

Junior Vice President of Programs, Minority Issues Forum, INFORMS, 2018-2019.

Conference Session Chair/Organizer:

Track Chair, Minority Issues Forum, INFORMS Annual Meeting 2020.

Track Chair, Minority Issues Forum, INFORMS Annual Meeting 2019.

Track Chair, Minority Issues Forum, INFORMS Annual Meeting 2018.

Public Sector OR, INFORMS Annual Meeting 2018.

Transportation Science and Logistics Society, INFORMS Annual Meeting 2017.

Transportation Science and Logistics Society, INFORMS Annual Meeting 2016.

Organizing Committee, *NSF Workshop on Humanitarian Logistics Research*, National Science Foundation, Washington, DC, December 2014.

Reviewer for:

Journal of Humanitarian Logistics and Supply Chain Management (2); Journal of Operations Management (1); Journal of Networks and Spatial Economics (12); Transportation Research Part A: Policy and Practice (2); Transportation Research Part D: Transport and Environment (2); Transportation Research Part E: Logistics and Transportation Review (2); Transportation Research Record (14); World Conference on Transport Research (1).

OTHER

Professional Development

2020 Online Course Design Basics, University of Missouri St.-Louis, MO.

2019 STEM Faculty Launch, Worcester Polytechnic Institute, MA.

2018 Teaching Intensive Institutions Workshop, Westfield State University, MA.

2013 Advanced Business Analytics Workshop, SAS Institute, NC.

2011 Statistical Data and Metadata Exchange Workshop, Eurostat, Luxembourg.

2011 Statistical Datawarehouse Best Practices Workshop, INEGI, Mexico.

Professional Affiliations

Institute for Operations Research and the Management Sciences (INFORMS)

Production and Operations Management Society (POMS)

Transportation Research Board (TRB)

Women's Transportation Seminar International (WTS)