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ACADEMIC BACKGROUND

PhD Modeling and Simulation   2007
Old Dominion University, Norfolk, VA (AACSB-accredited)
Dissertation: Characterizing Error Generation in Stochastic Inventory Models
that Present Serially-Correlated Components in their Demands

MBA   2002
Concentrations: Finance and Information and Technology
Old Dominion University, Norfolk, VA

Project Management Graduate Certificate   1997
Andres Bello Catholic University, Caracas, Venezuela

BS Industrial Engineering   1994
Jose Maria Vargas University, Caracas, Venezuela

RESEARCH / TEACHING APPOINTMENTS

Research Associate Professor   April 2019-Present
Virginia Modeling, Analysis and Simulation Center
Old Dominion University, Suffolk, VA

Research Affiliate   Oct 2015- Present
MIT-Center for Transportation & Logistics
Massachusetts Institute of Technology, Cambridge, MA

Professor of Supply Chain Management   Oct 2015- April 2019
MIT-Zaragoza International Logistics Program
Zaragoza Logistics Center (ZLC), Zaragoza, Spain

Research Associate Professor   Oct 2013- Oct 2015
Virginia Modeling, Analysis and Simulation Center
Old Dominion University, Suffolk, VA

Research Assistant Professor   Feb 2008- Oct 2013
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Postdoctoral Research Associate   Aug 2007- Feb 2008
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JOURNAL ARTICLES PUBLISHED / ACCEPTED

1. **Diaz R.,** Smith Katherine, Landaeta Rafael, Padovano Antonio. Shipbuilding Supply Chain Framework and Digital Transformation: A Project Portfolios Risk Evaluation. *Procedia Manufacturing* 42 (2020): 173-180.

2. **Diaz R.,** Behr Joshua, Padovano Antonio, Francesco Longo. Supply Chain Modeling in the Aftermath of a Disaster: A System Dynamics Approach in Housing Recovery. *IEEE Transaction on Engineering Management* (2019).

3. **Diaz, R.,** and Erika Marsillac. Evaluating strategic remanufacturing supply chain decisions. *International Journal of Production Research* 55.9 (2017): 2522-2539.

4. **Diaz, R.,** Joshua G. Behr, and ManWo Ng. Quantifying the economic and demographic impact of transportation infrastructure investments: A simulation study. *Simulation* 92.4 (2016): 377-393.

5. **Diaz R.**, Kumar Sameer, Bailey Mike. Analyzing Lost-Sale Stochastic Inventory Model with Markov-Modulated Demands: A Simulation-based Optimization Study. *Journal of Manufacturing Systems.* 38 (2016): 1-12

6. **Diaz R.** Using dynamic demand information and zoning for the storage of non-uniform density stock keeping units. *International Journal of Production Research.* (2016) 54.8: 2487-2498.

7. Ng ManWo, **Diaz R**., Behr Joshua. Inter- and Intra-regional Evacuation Behavior during Hurricane Irene: Results from a Large-Scale Phone Survey. *Journal of Travel Behaviour and Society* (2016). 3 21-28.

8. Behr Joshua, **Diaz R.,** Muge Akpinar-Elci Health Service Utilization and Poor Health Reporting in Asthma Patients. *International Journal of Environmental Research and Public Health.* 13.7 (2016): 645.

9. Liu Hua, Behr Joshua, **Diaz R.** Population vulnerability to storm surge flooding in coastal Virginia, U.S.A. *Integrated Environmental Assessment and Management* (2016). Volume 12, Issue 3, 500–509.

10. Behr Joshua, **Diaz R.,** Mitchell Molly. Household Adaptation Perceptions, Behaviors, and Capacity: Informing the Comprehensive Planning Process & Building Resiliency in Response to Sea Level Rise and Recurrent Flooding. *The Virginia News Letter.* 92.1 (2016). 1-6

11. Behr G., **Diaz R.** Emergency Department Frequent Utilization for Non-emergent Presentments: Results from a Regional Urban Trauma Center Study. *PloS one* (2016).11.1: e0147116.

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12. Ng, ManWo, **Diaz R.**, and Joshua Behr. "Departure time choice behavior for hurricane evacuation planning: The case of the understudied medically fragile population." *Transportation Research Part E: Logistics and Transportation Review* 77 (2015): 215-226.

13. **Diaz R.,** Behr Joshua, Britton B. Modeling Chronic Disease Patient Flows Diverted from Emergency Departments to Patient-Centered Medical Homes. *IIE Transactions – Healthcare Systems Engineering.* 5.4 (2015): 268-285.

14. **Diaz R.**, Behr Joshua, Britton B. Estimating cost adjustments required to accomplish target savings in chronic disease management interventions: a simulation study. *Simulation* (2015): 91 (7), 599-614.

15. **Diaz R.**, Sameer Kumar, Behr Joshua. Housing Recovery in the Aftermath of a Catastrophe: Material Resources Perspective. *Computers & Industrial Engineering Journal* (2015). 81: 130-139.

16. Behr J. G., **Diaz R.** Knapp Barry, Kratzke Cynthia. Framework for classifying compliance and medical immediacy among low-acuity presentations at an urban trauma center. *International journal of emergency medicine* (2015) 8.1: 1-9.

17. Kumar Sameer, **Diaz R.**, Behr Joshua. Modeling the effects of labor on housing reconstruction: A system perspective (2015). *International Journal of Disaster Risk Reduction (IJDRR)* - 12 (2015): 154-162.

18. Akpinar-Elci Muge, Martin Francis, Behr Joshua, **Diaz R.**, Saharan Dust, climate variability, and Asthma. *International Journal of Biometeorology.* (2015), February.

19. **Diaz R.,** Szklo-Coxe, Mariana, Behr Joshua. Modeling the Transition from Adverse to Healthy Sleep Behaviors among School Age Children. *International Journal of Information Systems and Social Change* (2015). Vol. 6 No. 2. *1-15*

20. **Diaz R.**, Behr Joshua, Longo Francesco, Landaeta Rafael, Nicoletti Letizia. Modeling Energy Portfolio Scoring: A Simulation Framework. *International Journal of Business Analytics* (2015). 2(4).

21. **Diaz R.,** Behr Joshua. Analyzing the effects of serially–correlated demands on costs and service levels: a lost–sale case inventory system. *International Journal of Applied Management Science* (2014) - Vol. 6, No. 4

22. Ng ManWo, Behr Joshua, **Diaz R.** Unraveling the evacuation behavior of the medically fragile population: Findings from hurricane Irene. *Transportation Research Part A: Policy and Practice* (2014). 64: 122-134.

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23. Behr J., **Diaz R.** Modeling and simulation standards development, adoption and conformity in the attainment of system values: A framework for the tension between two process ideals. *Simulation* (2014). 90.5: 591-605.

24. Nicoletti Letizia, Chiurco Alessandro, Arango Carlos, **Diaz R.** Hybrid approach for container terminals performances evaluation and analysis. *International Journal of Simulation and Process Modelling* (2014). 9.1: 104-112

25. **Diaz R.**, Behr J. A Simulation Framework for Evaluating the Effectiveness of Chronic Disease Management Interventions. *International Journal of Information Systems in the Service Sector* (2014). Vol. 6 No. 4.

26. Behr J. and **Diaz R.** Hurricane Preparedness: Community Vulnerability and Medically Fragile Populations. *The Virginia News Letter*. (2014) Vol 90 (2): 1-10

27. **Diaz R.**, Behr J, Anna Jeng, Manwo Ng. The Effects of Transit Corridor Developments on the Healthcare Access of Medically Fragile Vulnerable Populations. *International Journal of Privacy and Health Information Management* (2013). 1.2: 57-75.

28. **Diaz R.,** Behr J., Liu Hua, Longo, Francesco. A Systems Framework for Modeling Health Disparities in the Prevalence in Chronic Conditions following a Natural Disaster Event. *International Journal of Privacy and Health Information Management* (2013) 1.1 12-28.

29. Behr J. and **Diaz R.** Disparate health implications stemming from the propensity of elderly and medically fragile populations to shelter in place during severe storm events (2013). *Journal of Public Health Management and Practice (JPHMP).* 19: S55-S62.

30. Ardalan, A. and **Diaz R.** An Evaluation of the NERJIT Priority Rule in a Kanban-Controlled Flowshop. *Production and Operations Management (POMS).* (2012). 21.5: 923-938.

31. **Diaz R.,** and Ezell Barry C. Using Analytical Network Process Decision Methodology to Analyze and Allocate Resources in the Army Training Support System, *International Journal of Operations Research.* (2012). Vol. 3. No. 3: 53-73.

32. Ardalan A., and **Diaz R.** NERJIT: Using Net Requirement Data in Kanban-Controlled Jumbled-Flow Shops. *Production and Operations Management (POMS)* (2012). Vol. 21: 606–618.

33. **Diaz R.,** Behr J. & Tulpule M. A System Dynamics Model for Simulating Ambulatory Health Care Demands (2012). *Simulation in Healthcare.* Vol. 7. No. 4: 243-250.

34. James Blando, Leonard Bielory, Viann Nguyen, **Diaz R.**, Hueiwang Anna Jeng (2012). Anthropogenic Climate Change and Allergic Diseases. *Atmosphere*, Vol. 3: 200-212.

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35. **Diaz R.,** and Ezell Barry C. Simulation-based Optimization Approach to a Lost Sale Stochastic Model. *International Journal of Operations Research* (2012). Vol. 3. No. 2. Pages 46-63.

36. **Diaz R.,** and Bailey M. Building knowledge to improve enterprise performance from inventory simulation models. *International Journal of Production Economics (IJPE).* (2011). Volume 134, Issue 1, Pages 108-113.

37. **Diaz R.**, Talley W., & Tulpule M. Forecasting Empty Container Volumes. *Special Issue of the Asian Journal of Shipping and Logistics.* (2011). Vol. 27 No. 2: 217-236.

38. **Diaz R.,** and Ardalan A. An Analysis of Dual-Kanban Just-In-Time Systems in a Non-repetitive Environment. *Production and Operations Management (POMS).* (2010). Vol. 19, No. 2

JOURNAL ARTICLES UNDER REVIEW

1. **Diaz R.** and Ardalan A. Simulation Analysis of Net-CONWIP Priority Rule in Constant Work-In-Process Systems. *International Journal of Production Research (IJPR).*

2. **Diaz R.**, Chan Phan, Golenbach Daniel. Hub and Spoke Network Design for a Fast-Growth Company in a Highly- and Densely-Urbanized Environment: A Driving Distances on Spherical Surface Approach. *Transportation Research Part E.*

3. **Diaz R.** Sailesh Kolachana, Rodrigo Falcão Gomes, Analyzing and Prioritizing Agility in Global Pharma Supply Networks: A Simulation Study. *International Journal of Production Research (IJPR).*

4. **Diaz R.,** Behr J. Asthma and Heavily Trafficked Roads in Maritime Port Communities: Assessing the Public Health Risks. *Travel Behaviour and Society*

JOURNAL ARTICLES IN PROGRESS

1. Basile Bruna, Caropresso Fernanda, Bello Pilar, Spiros Lekkakos, **Diaz R.** Capacity Planning Optimization for a pharmaceutical company. *European Journal of Operational Research (EJOR).*

2. Lina Romero, Ludovico Bernard, **Diaz R**. Analyzing Sourcing Networks for a Coffee Retailer: A Logistic Regression Analysis. *International Journal of Production & Operations Management (IJPOM)*

3. **Diaz R.**, Behr Joshua, Landaeta R. Evaluating Project Portfolio Adjustments: An Optimization Framework using Neural Networks and Mathematical Programming. *European Journal of Operational Research (EJOR).*

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4. Landaeta R and **Diaz R.** Transferring Knowledge across Projects: The Moderating Effects of Job Demands. *IEEE Transactions on Engineering Management*.

5. Laranjeira-Gomes Leo; **Diaz, R.** The next frontier of the exploration, exploitation, and organizational ambidexterity research: operations management. *Journal of Business Logistics (JBL)*.

BOOK CHAPTERS

1. **Diaz, R.,** and Joshua G. Behr. *A simulation framework for evaluating the effectiveness of chronic disease management interventions.* Health Economics and Healthcare Reform: Breakthroughs in Research and Practice (2018). 455-474.

2. **Diaz, R.**, et al. *Modeling Energy Portfolio Scoring: A Simulation Framework* in Public Health and Welfare: Concepts, Methodologies, Tools, and Applications: Concepts, Methodologies, Tools, and Applications (2017): 203-226

3. **Diaz R**. and Behr Joshua G. *Business M&S* in *Handbook of Real-world Applications* in Modeling and Simulation (2012). Wiley, Edited by John A. Sokolowski, Catherine M. Banks.

4. **Diaz R**. and Behr Joshua G. *Discrete-event Simulation* in *Modeling and Simulation Fundamentals: Theoretical Underpinnings and Practical Domains* (2010). Wiley, Edited by John A. Sokolowski, Catherine M. Banks.

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. **Diaz, R**., Garcia, Hector. "A Real-Time Data-driven Lean Management Approach to Facility and Equipment Management" Proceedings of the ShipTech 2020 - Charleston, South Carolina, 26-27 March 2020.

2. Kosteczko, J., Smith, K., Johnson, J., **Diaz, R**. "Virginia Digital Shipbuilding Program (VDSP) – Building an agile modern workforce to improve performance in the shipbuilding and ship repair industry." Proceedings of the 2020 ASEE Annual Conference & Exposition. Montréal, Quebec, Canada, June 21-24, 2020.

3. **Diaz, R.,** Smith, K., Landaeta, R., Padovano, A. "Shipbuilding Supply Chain Framework and Digital Transformation: A Project Portfolios Risk Evaluation." Proceedings of the International Conference on Industry 4.0 and Smart Manufacturing. Rende, Cosenza, Italy, November 20-22, 2019.

4. Joe, M., Smith, K., **Diaz, R.** "Employing H2 and AR Immersive Environments with Real-Time Feedback to Enhance Digital Engineering Workforce Development." Proceedings of the

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American Society of Naval Engineers Design Sciences Series: Digital Engineering: Digital Twin. Washington, D.C., November 6-7, 2019.

5. Padovano Antonio, **Diaz R.**, Longo Francesco, Behr Joshua. A methodological framework to implement lean in dynamic and complex socio-technical systems. The International Conference on Modeling & Applied Simulation. Budapest, Hungary. September 2018.

6. McLeod George, Behr Joshua, **Diaz R.** GIS for Storm Flood Population Vulnerability Analysis. CoastGIS Conference 2015.

7. **Diaz R.**, Behr Joshua, Sameer Kumar, Toba Ange-Lionel, Longo Francesco, Nicoletti Letizia. Modeling the Recovering Housing Stock after the Occurrence of Catastrophic Event: A Supply Chain view. MAS 2013. September 28-30, 2013. Athens, Greece.

8. **Diaz R.**, Behr Joshua, Sameer Kumar, Toba Ange-Lionel, Longo Francesco Analyzing the Impact of Public Health Interventions on Ambulatory Healthcare Capacities. IWISH 2013. September 28-30, 2013. Athens, Greece.

9. Longo Francesco, Nicoletti Letizia, **Diaz R.**, Behr Joshua. Health Care Facility Improvement through Simulation. IWISH 2013. Athens, Greece.

10. **Diaz R.**, Marsillac Erika. A Newsvendor Perspective of Remanufacturing Using Monte Carlo Simulation. Global Supply Chain Management Conference 2013. September 26-28, 2013 in Detroit. MI.

11. Bruzzone Agostino, Longo Francesco, Nicoletti Letizia, Chiurco Alessandro, **Diaz R.** Advanced Modeling & Simulation Based Tools for Supporting The Design and Management of A Job Order Manufacturing System. Spring Simulation Conference, 2012. April 7-10, 2013. San Diego, CA.

12. **Diaz R.**, Szklo-Coxe, Mariana, Behr Joshua, Toba Lionel. Modeling Sleeping behavior -source of chronic diseases and risky behavior: A preliminary compartmentalized simulation model. 2012 International Annual Conference American Society of Engineering Management. October 17-20, 2012. VA Beach.

13. **Diaz R.**, Khattak Asad, Behr Joshua, Jeng Anna, Longo Francesco, Duanmun Jun. The Effects of Transit Corridor Developments on the Healthcare Access of Medically Fragile Vulnerable Populations. European Modeling and Simulation Symposium 2012 (EMMS and IWISH). Sep 17- 20. Vienna, Austria.

14. Bruzzone Agostino, Nicoletti Letizia, Chiurco Alessandro, **Diaz R.**, Palaia Emanuela Marine Ports Environmental sustainability: a state of the art overview. Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. Sep 17- 20. 2012. Vienna, Austria.

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15. **Diaz R.**, Szklo-Coxe Mariana, Behr Joshua. Using modeling and simulation in analyzing Sleep Behavior Issues: A state of the art overview. Spring Simulation Conference, 2012. March 26-29, 2012. Orlando, Florida.

16. **Diaz R.**, Behr Joshua, Jeng Anna, Liu Hua, Longo Francesco. Analyzing the Effects of Policy Options to Mitigate the Effect of Sea Level Rise on the Public Health and Medically Fragile Population: A System Dynamics Approach. Spring Simulation Conference, 2012. March 26-29, 2012. Orlando, Florida.

17. Agostino Bruzzone, Francesco Longo, Letizia Nicoletti and **Diaz R.** Traffic Controllers and Pilots Training in Marine Ports Environments by Using Simulation. Spring Simulation Conference, 2012. March 26-29, 2012. Orlando, Florida.

18. Tulpule Mandar, **Diaz R.**, Behr Joshua, Tulpule Mandar. Towards Modeling the Population Dynamics in the United States. MODSIM World 2011. October 11-14, 2011. Virginia Beach, Virginia.

19. **Diaz R.**, Behr Joshua, Tulpule Mandar. Simulation-based Optimization for Improving Chronic Healthcare Management Interventions. The 23rd European Modeling & Simulation Symposium. September 12-14, 2011. Rome, Italy.

20. **Diaz R.**, Tulpule Mandar, Behr Joshua. Modeling the Empty Container Flow: Identifying Primary Influencing Factors through Scenario Analysis. The International Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. September 12-14, 2011. Rome, Italy.

21. Bruzzone, Agostino, Longo Francesco, Nicoletti, Letizia, **Diaz R.** Virtual Simulation for training in ports environments. Summer Computer Simulation Conference. 27-30 June 2011, World Forum, The Hague, Netherlands.

22. **Diaz R.**, Tulpule Mandar, Behr Joshua, Longo Francesco, Cimino Antonio. Energy Portfolio Simulation Considering Environmental and Public Health Impacts. April 6-9, 2011. Spring Simulation Conference Boston, MA.

23. Behr Joshua, **Diaz R.**, Tulpule Mandar, Longo Francesco, Cimino Antonio. Modeling and Simulating the Economic and Demographic Impact of Transport Infrastructure Investment. Spring Simulation Conference. April 6-9, 2011. Boston, MA.

24. **Diaz R.**, Tulpule M., Longo Francesco, Cimino Antonio. Monte Carlo Applications in One-time Decisions Projects. The International Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. October 13 – 15, 2010. Fes – Morocco.

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25. Tulpule M., **Diaz R.**, Longo Francesco, Cimino Antonio. Analyzing the Economic and Operational Impact of Empty Containers on Ports and Terminals. The International Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. October 13 – 15, 2010. Fes – Morocco.

26. Cimino Antonio, Longo Francesco, Miraballi G., **Diaz R.** A computerized methodology and Advanced Approach for the Effective Design and Productivity Enhancement of an Industrial Workstation. The International Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. October 13 – 15, 2010. Fes – Morocco.

27. Behr Joshua, **Diaz R.** Modelling and Simulating Public Health Stemming from the Evolution in the Electric Energy Portfolio of South-eastern Virginia. International Multi-Conference on Technological Innovation. Orlando, FL, June 29 - July 2, 2010.

28. Behr Joshua, **Diaz R.** A System Dynamics Approach to Modeling the Sensitivity of Inappropriate Emergency Department Utilization. 2010 International Conference on Social Computing, Behavioral Modeling, & Prediction (SBP10). March 29, 2010. National Institutes of Health. Washington D.C.

29. **Diaz R.** Using Optimization Coupled with Simulation to Construct Layout Solutions. Spring Simulation Conference, 2010. April 11-15, 2010. Orlando, Florida.

30. Bruzzone Agostino, Cimino Antonio, **Diaz R.**, Longo Francesco. Inventory Control with Products Returns: A state of the Art Overview. Spring Simulation Conference, 2010. April 11-15, 2010. Orlando, Florida.

31. Cimino Antonio, **Diaz R.**, Longo Francesco, Mirabelli Giovanni. Empty Containers Repositioning: a State of the Art Overview. Spring Simulation Conference, 2012. April 11-15, 2010. Orlando, Florida.

32. Ardalan A., **Diaz R**. Analysis of global and local decision rules in a dual-kanban job shop. Proceedings of the 26th National Conference of the American Society of Engineering Management. October 2005. VA Beach, Virginia.

CONFERENCE PRESENTATIONS

1. Behr J., **Diaz R**., Giles Bridget, and McLeod Georg. Policy Implications and Measurement of Variation in Repair/Rebuild Recovery Times across Population Groups. Social Coast Forum, Charleston, NC 2018.

2. **Diaz R.,** Ardalan. Net-CONWIP: Improving pull-based control systems. Decision Science Conference (DSI), 2017. November 22-26, 2017.

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3. Gomes Leonardo, **Diaz R**. The Operational Implications of Introducing New Products into Consumer Packaged Goods Supply Chains: The Case of a Spanish Consumer Packaged Goods Manufacturer. INFORMS Annual Meeting 2017.

4. **Diaz R**, Behr Joshua, David Ernest. Modeling Temporary, Interim, and Permanent Housing Recovery. Housing Stock Recovery Following a Catastrophic Storm (6/5/2016). POMS conference presentation – Orlando, FL.

5. Behr Joshua, **Diaz R.** Sheltering and Facilitating Housing Stock Recovery Following a Catastrophic Storm" presented on Thursday, March 31th. The annual Virginia Emergency Management Symposium is March 30- April 1, 2016. Virginia Department of Emergency Management and the Virginia Emergency Management Association. Newport News, VA.

6. **Diaz R.** and Behr Joshua. Evacuation rational of vulnerable populations: Moderators and Mediators. Healthcare Organizations Emergency Preparedness Seminars (HOEPS). April 2015. VA.

7. Behr Joshua and **Diaz R.** Medically Fragile Populations and the Severe Storm Vulnerabilities in Southeastern VA: Hurricane Irene, Virginia Emergency Management Symposium. March 18, 2015. VA.

8. **Diaz R.,** Ardalan Ali. Net-CONWIP: A Production Method that Uses Demand and Supply Information to Prioritize Sequencing. Decision Science Conference (DSI) Conference, 2014. November 22-26, 2014. Tampa, FL.

9. **Diaz R**., Behr Joshua. Modeling Chronic Disease Patient Flows within a Medical Group. Decision Science Conference (DSI) Conference, 2014. November 22-26, 2014. Tampa, FL.

10. Ardalan Ali, **Diaz R.** Comparison of Two Priority Rules in Kanban-Controlled Job Shop. International Federation of Operational Research Societies (IFORS) Conference, 2014. July 13-18, 2014. Barcelona, Spain.

11. **Diaz R.** Exploring the Effects of Serially-Correlated Demand Acting over a Stochastic Inventory System. Production and Operation Management Society (POMS) Conference, 2014. May 9-11, 2014. Atlanta, Georgia.

12. **Diaz R.**, Behr Joshua, Britton Bruce. Modeling the impact of catastrophic events on regional ambulatory operations. Production and Operation Management Society (POMS) Conference, 2013. May 3-11, 2013. Denver, Colorado.

13. **Diaz R.**, Behr Joshua. A supply chain perspective in rebuilding housing stocks after natural disasters. Production and Operation Management Society (POMS) Conference, 2013. May 3-11, 2013. Denver, Colorado.

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14. Joshua, **Diaz R**. Severe Storm Event Mitigation and Recovery Forecasting Tool. Dynamics of Preparedness. University of Pittsburgh, MIDAS Center of Excellence. October 22-24, 2012. Pittsburg, PA.

15. **Diaz R.**, Behr Joshua, Jeng Anna, Tulpule Mandar. Quantifying the Effects of Remediation Policy Options to Address Impacts of Sea Level Rise on the Public Health of Vulnerable Populations: A System Dynamics Approach. October 11-14, 2011. MODSIM World 2011. Virginia Beach, VA.

16. Behr Joshua, **Diaz R.**, Tulpule Mandar, Ezell Barry. Neighborhood Community Vulnerability and Medically Fragile Populations: Assisting Localities to Plan for and Protect Citizens in the Event of Natural Disasters. Applications of M&S in Healthcare Management. INFORMS Annual Meeting 2011. November 13-16. Charlotte, NC.

17. **Diaz R.**, Behr Joshua, Tulpule Mandar. A System Dynamics Approach to Measuring the Disparate Impacts of SLR on Hampton Roads' Underserved Populations Residing in the Chesapeake Bay's Coastal Zone. Applications of M&S in Healthcare Management. INFORMS Annual Meeting 2011. November 13-16, 2011. Charlotte, NC.

18. **Diaz R.**, Tulpule Mandar. Chronic Disease Management: Analyzing the Impact of Interventions on Patient Health. June 20-22, 2011. Applications of M&S in Healthcare Management. INFORMS Healthcare, Montreal, Canada.

19. Tulpule Mandar, **Diaz R**. Simulation-based optimization for managing chronic healthcare interventions. June 20-22, 2011. Applications of M&S in Healthcare Management. INFORMS Healthcare, Montreal, Canada.

20. **Diaz R.**, Behr J. Tulpule M. A System Dynamics (SD) approach to analyze trade-offs and conditional effects at play within the demand-supply emergency departments. October 13–15, 2010. MODSIM World 2010. Hampton, VA.

21. **Diaz R.**, Ardalan A. CONWIP and Net-CONWIP: A Simulation Study. International Conference OR. Complex Systems. September. 1- 3, 2010. Munich, Germany.

22. Tulpule M., **Diaz R.**, An advanced layout optimization algorithm using cluster and frequency information. International Conference OR. Complex Systems. September 1- 3, 2010. Munich, Germany.

23. **Diaz R**. Hampton Roads sensor and unmanned systems technology cluster partnership workshop on port security. Panelist for Port harbor and emergency management. Association for unmanned vehicle system international – Hampton Roads Chapter. January 25, 2010. Portsmouth, VA.

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24. Behr Joshua and **Diaz R**, Emergency department utilization for non-emergent conditions: An in-depth assessment of the decision calculus of patients at a major urban trauma center. American Public Health Association. November 2009. Philadelphia, PA.

25. **Diaz R.**, Talley Wayne. The economic impact of transportation infrastructure projects in urban and suburban regions: A System Dynamics Evaluation. MODSIM World 2010. October 2009. VA Beach, VA.

26. **Diaz R**. An Application of Simulation-based Optimization in Emergency Departments Resource Allocation. INFORMS Annual Meeting 2009. Applications of M&S in Healthcare Management. October 2009. San Diego, CA.

27. Behr J. and **Diaz R**. A System Dynamic Approach to Modeling the Sensitivity of Inappropriate Emergency Department Utilization. INFORMS Annual Meeting 2009. October 2009. San Diego, CA.

28. **Diaz R**. Analyzing Inventory Models with Markovian Auto-correlated Demand Via Simulation Optimization. INFORMS Annual Meeting. October 14, 2008. Washington D.C.

29. Ardalan A. & **Diaz R**. A Simulation Analysis of Local and Global Priority Rules in Job Shops. The 3rd World Conference on Production and Operations Management, Tokyo August 5-8, 2008.

30. **Diaz R**. Using simulation-based optimization for bioterrorism preparedness in an emergency room. Panelist for Ensuring Your Community's Emergency Preparedness. A joint program of ACHE's Healthcare Administrators of Tidewater (HCAT) and Virginia HIMSS. August 13, 2008. Suffolk, VA.

31. **Diaz R.** A Simulation Optimization Approach to Solve Stochastic Inventory Problems with Autocorrelated Demand. INFORMS Annual Meeting. November 4-7, 2007. Seattle, WA.

32. Ardalan A. & **Diaz R.** A Simulation Analysis of Local and Global Priority Rules in Job Shops. INFORMS International. July 8-11, 2007. San Juan, Puerto Rico.

TECHNICAL PAPERS

1. **Diaz R**. and Behr J. Giles B. Statistical Analysis of Mediators and Moderators Affecting High-Frequency Emergency Department Utilizers: A Structural Equation Modeling Approach**.** Ongoing.

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2. **Diaz R**. and Behr J. Giles B. 1. Chronic Disease Management Tool Development Prototype October 2014. National Center for Collaboration in Medical Modeling and Simulation (NCCMMS).

3. **Diaz R**. and Behr J. 1. Behavioral Study Report; 2. Refuge of Last Resort –Identification and Capacity study; 3. Shelters – Identification and Capacity Study; 4. Housing Report. U.S. Catastrophic Planning Team (HRCPT) and VA Department of Emergency Management (VDEM). July 2013.

4. **Diaz R** and Behr J. The effects of Sea Level Rise in Hampton Roads VA: a System Dynamics Simulation Study. ODU Research Foundation. April 2012.

5. **Diaz R** and Talley W. Optimization of Refuse Collection Routing for the City of Hampton VA. Hampton VA. October 2011.

6. **Diaz R** and Talley W. Educating College Students in M&S. Opportunity Inc. June 2010.

7. **Diaz R**. Improving Productivity at SYSCO by Enhancing Storage Assignment and Family-Based Grouping. May 2009.

8. Talley W. and **Diaz R** Modeling the Economic Impact of Six Transportation Alternatives for the Hampton Roads Region. November 2008.

9. Sokolowski J., & **Diaz R**. Mathematical characterization of forecasting model for the Anheuser-Busch products. R.N. V07-005. March 2008.

10. Sokolowski J., Banks C., Armstrong R., Gaskins R., & **Diaz R**. Population dynamics investigative research to support Marine Corps Studies System Irregular Warfare. R.N. V06-002. November 2006.

11. **Diaz R**. Using the Analytical Network Process approach to Analyze and Allocate Resources using Dependencies in the Army Training Support System Context. Spring - Fall 2005.

TEACHING

MIT – CENTER OF TRANSPORTATION AND LOGISTICS (CAMBRIDGE, MA)

1. Strategic Supply Chain Innovation and Sustainability. Spring 2018

MIT – ZARAGOZA LOGISTICS CENTER (ZARAGOZA, SPAIN)

2. Data Analytics and Innovation: ZLOG – Spring 2019

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3. Supply Chain Network Design and Optimization: ZLOG Elective - Spring 2018

4. Logistics Systems – Analytics Methods: ZLOG Core Course. Fall 2015, Fall 2016, Fall 2017, Fall 2018

5. Strategic Manufacturing Logistics: ZLOG Advanced Elective. Spring 2016, Spring 2017, Spring 2018

6. Forecasting. Spring 2016, Fall 2016

7. Process Planning and Control. Spring 2017

8. Lean Management. Spring 2017, Spring 2018, Spring 2019

9. Supply Chain Modeling and Simulation (PhD Level). Summer 2017, Summer 2018.

10. Healthcare Logistics Management Analytics– Core class development (Masters and PhD levels) – Erasmus+. Ongoing.

FRAUNHOFER INSTITUTE – UNIVERSITY DORTMUND, GERMANY

11. Research Stream Positioning and Development: Methodological perspectives. PhD Summer Academy 2016.

MIT ZARAGOZA – EXECUTIVE EDUCATION

12. Introduction to Business Analytics and digital transformation (Airbus). March 2019

13. Demand Management Analytics and S&OP (Baltic Mills). October 2018

14. Supply Chain Innovation – Introduction to Industry 4.0 and digitization (Automotive Cluster - Galicia). December 2017

15. Network Design (Asia Group). Summer 2016

16. Introduction to Business Analytics (Spain Army - Logistics Group). Fall 2015

OLD DOMINION UNIVERSITY

17. Logistics and Supply Chains. Spring 2015, Fall 2013, Summer 2013

18. Supply Chain and Logistics. Fall   2014

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19. Operations Management. Spring 2014, Fall 2013

20. Management Science / Operations Research. Spring 2013

21. Supply Chain and Reverse Logistics. Spring 2010

22. Business Productivity Software. Spring 2001, Summer 2001, Fall 2001, Spring 2002, Summer 2002, Fall 2003

OLD DOMINION UNIVERSITY – EXECUTIVE EDUCATION

23. Introduction to System Dynamics Simulation. Fall 2012

24. Modeling and Simulation for Healthcare Management. Spring 2011

ADVISORY

1. Leonardo Gomes. Building Ambidextrous Supply chain Strategies into Food & Beverage manufacturing operations – PhD Dissertation. Aves Nobles (2017- 2019).

2. Fernanda Caropresso, Bruna Basil, Pilar Bello. Strategic Capacity Network Optimization. ***Outstanding Master's Thesis Award*** - ZLOG program (2017-2018).

3. Daniel Golenbach, Chan Phan. Hub and Spoke Network Design for a Fast-Growth Company ***Outstanding Master's Thesis Award*** - ZL Blended program (2017-2018).

4. Byron Garcia, Ricardo Cabral. Strategic Distribution Network Analysis of Engine Spare Parts Operations (2017-2018).

5. Ted Lynch and Scott Conner. Resiliency and Sourcing Strategy in the Semiconductor Industry (2017-2018).

6. Sailesh Kolachana and Rodrigo Falcão Gomes. Analyzing and Prioritizing Agility in Global Pharma Supply Networks- Pfizer (2016-2017).
   ** Finalist Outstanding Master's Thesis Award**

7. Snehashish Sridhar and Ruben Sifuentes. An Internet of Things approach to Minimizing Bullwhip Effects. Accenture (2016-2017).

8. Lina Romero Ludovico Bernard. Thesis: Analyzing Sourcing Networks for a Coffee Retailer. (2015-2016).

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9. Alberto Dávila Cardozo and Jesús Buil Ramos. Thesis: Análisis y planificación de la implementación de las 5S´s en los laboratorios de ITAINNOVA por medio de simulación. (2015-2016).

10. Mandar Tulpule (2010-2012) and Toba Lionel (2012-2015) – Modeling and Simulation.

TEACHING ASSISTANT AND GRADUATE RESEARCH APPOINTMENTS

Graduate Teaching Assistant[2]
Old Dominion University

2006-2007

Instructor[1]
Old Dominion University, Norfolk, VA

2000-2002

Graduate Research Assistant[1,2]
Old Dominion University, Norfolk, VA

2003-2007

UNIVERSITY SERVICE

1. PhD Program Director – MIT Zaragoza   Spring 2017 – Spring 2019

2. PhD Summer Academy Director – MIT Zaragoza   Summer 2018

3. PhD student selection process (Rounds I and II) – MIT Zaragoza – Spring 2017, Spring 2018

4. M.S. student selection process (Rounds I, II, and III)– MIT Zaragoza – Spring 2017, Spring 2018.

5. M.S, student selection process – MIT Zaragoza – Winter 2016 (Source: MIT Sloan Business School).

6. M.S student selection process – MIT Zaragoza – Fall 2016 (Source: CTL Micromaster).

7. Member of the faculty search committee – MIT Zaragoza – Fall 2016.

8. Member of the faculty Search committee – MIT Zaragoza – Spring-Summer 2016.

9. PhD/M.S student selection process – MIT Zaragoza – Spring 2016.

10. PhD/M.S. student selection process – MIT Zaragoza – Fall 2015.

11. Member of VMASC Senior Project Scientist Search Committee –Transportation focus, Spring 2014.

12. Organizer and Acting Co-Director, VMASC -Advanced Analytic Lab, Fall 2013.

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13. Member and organizer VMASC - M&S Capstone General application 2013.

14. Member of VMASC Software Developer Search Committee, Spring 2012.

15. Member and organizer VMASC - M&S Capstone General application 2012.

16. Member and organizer VMASC -M&S Capstone Application track 2011.

17. Member of VMASC Senior Project Scientists Search Committee, Spring 2010.

18. Member of the Department of Modeling, Simulation, and Visualization Engineering Faculty Search Committee –Healthcare focus, Spring 2010.

19. Member and organizer VMASC - M&S Capstone Application track 2010.

20. Member of VMASC Faculty Search Committee – Operations Research focus, Spring 2009.

21. Member and organizer VMASC - M&S Capstone Application track 2009.

22. Member of VMASC Faculty Search Committee –Healthcare focus, Spring 2008.

23. Member of VMASC Faculty Search Committee – Military/Healthcare focus, Spring 2008.

PROFESSIONAL SERVICE

Scholarly Journals

1. Reviewer, International Journal of Production and Operations Management (IJPOM) - (2016- present)

2. Reviewer, International Journal of Production Economics (IJPE) - (2015- present)

3. Reviewer, Journal of Transportation Research Part A (2015- present)

4. Special Issue Editor, International Journal of Privacy and Health Information Management (IJPHIM) (2013).

5. Reviewer, International Journal of Production Research (IJPR) - (2013- present)

6. Special Issue Editor, SIMULATION: Transactions of the Society for Modeling and Simulation International (2012).

7. Reviewer, Simulation in Healthcare (2012-present).

8. Reviewer, Production and Operations Management (POMS) (2012-present).

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9. Reviewer, Journal of Modeling and Simulation (2012-present).

10. Associate Editor, SIMULATION: Transactions of the Society for Modeling and Simulation International (2011).

11. Reviewer, Journal of Transportation Research Part E (2011- present)

12. Reviewer, Maritime and Port Logistics of the Journal of Mechanical Engineering (2011).

13. Reviewer, SIMULATION: Transactions of the Society for Modeling and Simulation International (2008- Present)

14. Reviewer, International Journal of Simulation and Process Modelling (2010 – present).

Professional Societies and Academic Institutions

1. Reviewer, Decision Science Conference, 2017.
    (Sessions 1: Modeling Manufacturing System; Session 2: Global Supply Chain)

2. Reviewer, Spring Simulation Conference, 2014 and 2015.

3. Symposium Chair: Enterprise Applications, Spring Simulation Conference 2013, April 8-11, 2013, San Diego, CA.

4. Reviewer, Best Symposium Enterprise Applications Paper Award, Spring Simulation Conference, 2013, April 8- 11, 2013, San Diego, CA.

5. Reviewer. 2013 International Conference on Social Computing, Behavioral Modeling, & Prediction (SBP13)." April 3 - 5, 2013. Washington, D.C.

6. Reviewer and Panelist National Science Foundation (NSF) -NSF-P121701 Health Care and Supply Chains. Summer 2012. Washington, D.C.

7. Reviewer, European Modeling and Simulation Symposium 2012 (EMMS and IWISH). Sep 17- 20. Vienna, Austria.

8. Symposium Chair: Enterprise Applications. Spring Simulation Conference, 2012. April 7-10, 2012. San Diego, CA.

9. Reviewer, Spring Simulation Conference, 2012, 2012. April 7-10, 2012. Orlando, FL.

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10. Session Chair and Reviewer, Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. September 12-14, 2011. Rome, Italy.

11. Session Chair, Applications of M&S in Healthcare Management. INFORMS Annual Meeting 2011. November 13-16, 2011. Charlotte, NC.

12. Session Chair, Applications of M&S in Healthcare Management. INFORMS Healthcare, June 24, 2011. Montreal, Canada.

13. Chair Session, Emerging Applications, Spring Simulation Conference 2011, April 6-9, 2011. Boston, MA.

14. Reviewer, Conference on Harbor, Maritime & Multimodal Logistics Modelling and Simulation. October 13 – 15, 2010. Fes – Morocco.

15. Session Chair, Spring Simulation Conference, 2010. April 11-15, 2010. Orlando, Florida.

16. Session Chair. INFORMS Annual Meeting 2009. Applications of M&S in Healthcare Management. October 2009. San Diego, CA.

17. Supported revision of Certified Modeling Simulation exam questions 2011 and 2012.

18. Reviewer and Panelist Centers for Disease Control and Prevention (CDC) / National Institutes of Health (NIH) Special Emphasis Panel (SEP). Combining Subjective and Objective Methods for Quantifying Contact Rates and Mixing Pattern in School-Aged Children (CK11-006). Summer 2011.

SELECT COMMUNITY SERVICE

1. Panel Moderator: Net Trends in Supply Chain. Fourth Global Supply Chain Research Forum 2018. Spain. May 29, 2018.

2. Guest Speaker and panelist. A Manufacturing and Logistics Analytics Perspective and Industry 4.0. Panel: Innovative Value Networks. Third Global Supply Chain Research Forum 2017. Spain. May 30, 2017.

3. Guest Speaker and panelist. Stay or Go? The Household Decision Calculus among Vulnerable and Medically Fragile Populations in Anticipation of an Impending Severe Storm Event. In Feeding of under-resourced individuals and households during times of disaster, Committee Meeting, Norfolk, VA. January 20, 2017

4. Panel Moderator. Second Global Supply Chain Research Forum 2016. Panel: Supply Chain Digitalization. Spain. May 24, 2016.

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5. Increasing sheltering capacities in the presence of a catastrophic event and displaced population demand for the U.S. Hampton Roads region: a mathematical programming approach. City of Norfolk Emergency Management. Rafael Diaz, Joshua Behr, and Jim Riddick. (2013)

6. Guest Speaker and panelist. HRCPT Long-term housing recovery strategy workshop conducted by Dewberry. April 25, 2013. Hampton, VA.

7. Guest Speaker and panelist Diaz R. Sea Level Rise – Eco-conference - Panelist. April 16, 2013. Norfolk, VA.

8. Exploring the alternative of analyzing and testing health interventions targeted to children in the city of Suffolk, Rafael Diaz, Joshua Behr, Andrea Parodi, 2011.

9. Analyzing the flow of low-acuity patients through Primary Care Physician (PCPs) and Specialists venues to provide healthcare services to underserved populations: A Modeling and Simulation study, Access partnership, Suffolk, Virginia, Rafael Diaz, Joshua Behr, 2010.

10. Guest Speaker and panelist. Hampton Roads sensor and unmanned systems technology cluster partnership workshop on port security. Panelist for Port harbor and emergency management. Association for unmanned vehicle system international – Hampton Roads Chapter. Spring, 2010. Portsmouth, VA.

11. Panelist. Educators Modeling and Simulation Day – Tidewater Community College (TCC) - Panelist. Summer 2009. Suffolk, VA.

12. Guest Speaker and panelist. Using simulation-based optimization for bioterrorism preparedness: An Emergency Department perspective. Ensuring Your Community's Emergency Preparedness. A joint program of ACHE's Healthcare Administrators of Tidewater (HCAT) and Virginia HIMSS. August 13, 2008. Suffolk, VA.

HONORS AND AWARDS

Outstanding Research Award, ZLC - MIT Global Scale   2017

Venia Docendi, Universidad de Zaragoza, Spain   2016-2019

U.S. Citizenship (Norfolk, VA)   2014

Best Paper Award   2011
The International Conference on Harbor, Maritime & Multimodal. Rome, Italy

Postdoctoral Fellowship, Old Dominion University   2007- 2008

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Faculty Award, Old Dominion University   2007

Dissertation Fellowship, Old Dominion University   2006-2007

Modeling and Simulation Fellowship, Old Dominion University   2003-2006

PROFESSIONAL DEVELOPMENT

- *R for Analytics***.** July 2019

- *Case Method Teaching Seminar,* Harvard Business Publishing. Italy. February 2017

- *Introduction to Python for Analytics***.** September – October 2017

- *Data Science and Big Data Analytics: Making Data-Driven Decisions.* Massachusetts Institute of Technology (MIT). October - November 2017.

GRANT FUNDED RESEARCH

1. **Healthcare Erasmus+**   09/01/2017-04/2019
    Structuring and delivering healthcare management program at Masters and PhD level

2. **Aves Nobles – Supply Chain Innovation – Product Introductions Impact**
                                                                   03/01/2017-12/2018

3. **Carreras**   09/01/2016

4. **Clariant**   03/01/2016

5. **City of Portsmouth – Sea Level Rise** (Co-PI)   08/01/14-08/15/15
    Analytics – The impact of SLR: Resiliency and Adaptation
    Award: $135,000

6. **NCCMMS – P-516851** (PI)   06/01/13-06/15/14
    Chronic Disease Management Tool Development
    Award: $37,800

7. **National Institutes of Health** P-311871 (Co-PI)   10/01/12-10/01/14
    Policy Resistance within a Region's Healthcare System: A System Dynamics Approach
    Award: $422,530

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8. **Virginia Department of Emergency Management** (PI) P- 530101
   09/01/12-06/01/13
   Hampton Roads Regional Catastrophic Planning Team for the Twenty-Four Jurisdictions of the Greater Hampton Roads Region in Southeastern Virginia and Northeastern North Carolina Phase III Work Plan and Costs
   Amount of Award: $538,161+Cost Sharing: $135,956
   Award: Total=$674,117

9. **Perry Endowment** – P-514321 (Co-PI)   07/01/11-10/01/12
   Mapping and modeling Neighborhood Community Vulnerability and Medically Fragile Populations for protection in natural disaster
   Award: $113,000

10. **ODURF** – P- 516851 (PI)   06/01/11-04/15/12
    The Disparate Impacts of SLR on Hampton Roads' Underserved Populations.
    Award: $37,800

11. **City of Hampton** – P-502211 (PI)   09/01/09-06/30/10
    Simulation-based Optimization Routing
    Award: $34,600

12. **Opportunity Inc. Department of Labor** P-797901 (PI)   09/01/09-06/30/10
    Educating College Students in M&S Engineering
    Award: $71,500

13. **Sysco Inc**. P-786351 (PI)   08/01/08-02/01/09
    Improving Productivity at SYSCO by Enhancing Storage Assignment
    Award: $30,000

14. **EDA II** (Co-PI)   07/01/08-7/01/09
    Developing Business Analytics M&S Research Cluster.
    Award: $100,000

15. **Commonwealth of VA** (Co-PI)   07/01/08-11/15/08
    Six transportation alternatives.
    Award: $250,000

16. **EURPAC** (Co-PI) –Forecasting Model   02/01/08-04/15/08
    Award: $10,000

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PROFESSIONAL AND CONSULTING EXPERIENCE

Zim American-Israeli, Norfolk, VA   2002 - 2003
OM (Logistic Analyst / MBA Internship)

Fivenez Bank (BPE International Group), Caracas, Venezuela   1997-1999
Business Process Consultant

Nueva Tecnología de Negocios, Caracas, Venezuela   1995-1997
Management Consultant

Compañía Nacional Teléfonos De Venezuela (CANTV)   1993-1994