Diana M. Prieto, Ph.D., M.A.

DEMOGRAPHIC AND PERSONAL INFORMATION

Current appointment

Assistant Professor
Carey Business School
Johns Hopkins University, Baltimore, MD

August 2017 - Present

Personal data

100 International Dr.
Baltimore, MD 21202, U.S.A.
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Languages

Spanish - Native language, English - Fluent

Research Interests Public health

Research Methods Operations management and data analytics

Education and training

University of South Florida, Tampa, FL, Ph.D., Industrial Engineering, 2011
University of South Florida, Tampa, FL, M.A., Statistics, 2010
Universidad Del Norte, Barranquilla, Colombia, M.Sc., Industrial Engineering, 2006
Universidad Del Norte, Barranquilla, Colombia, B.Sc., Industrial Engineering, 2003

Professional experience

Assistant Professor
Operations Management and Business Analytics
Johns Hopkins, Baltimore, MD
Carey School of Business

August 2017 - Present

Assistant Professor
Western Michigan University, Kalamazoo, MI
Department of Industrial and Entrepeneurial Engineering
& Engineering Management

August 2011 - August 2017

Lecturer in Time Series Analysis
Universidad Del Norte, Barranquilla, Colombia
Department of Industrial Engineering

July 2009

PUBLICATIONS (Names of mentees are underlined)

Journal publications

1. D. Martinez, H. Zhang, M. Bastias, F. Feijoo, J. Hinson, R. Martinez, J. Dunstan, S. Levin, and **D. Prieto**. Prolonged wait time is associated with increased mortality for Chilean waiting list patients with non-prioritized conditions. *BMC Public Health*, Volume 19, Number 233, 2019.

2. **D. Prieto**, M. Soto, R. Tija, L. Peña, , L. Burke, L. Miller, K. Berndt, B. Hill, J. Haghsenas, E. Maltz, M. Atwood, and E. Norman. Literature review of data-based models for identification of factors associated with racial disparities in breast cancer mortality. *Health Systems*, 2018. DOI: 10.1080/20476965.2018.1440925.

3. M. Soto, **D. Prieto**, and G. Munene. A Bayesian network and heuristic approach for systematic characterization of radiotherapy receipt after breast-conservation surgery. BMC Medical Informatics and Decision Making, Volume 17, Number 93, 2017.

4. **D. Prieto** and T. K. Das. An operational epidemiological model for calibrating agent-based simulations of pandemic influenza outbreaks. *Health Care Management Science*, Volume 19, Issue

1, 2016.

5. **D. Prieto**, A. Kumar, C. Kothari, and C Dickson. Systematic identification of coordination gaps in pediatric care. *Frontiers in Public Health Services and Systems Research*, 2016; 5(4):12-20. DOI: 10.13023/FPHSSR.0504.03.

6. E. Meisheri, **D. Prieto**, P. Holvenstot, and R. VanEnk. Preliminary evaluation of the disease surveillance system during influenza outbreaks of pandemic scale. *Frontiers in Public Health Services and Systems Research*, 2015; 4(3):3744. DOI: 10.13023/FPHSSR.0403.01.

7. **D. Prieto**, T. K. Das, A. Savachkin, A. Uribe, R. Izurieta, and S. Malavade. A systematic review to identify areas of enhancements of pandemic simulation models for operational use at provincial and local levels. *BMC Public Health*, Volume 12, Number 251, 2012.

8. A. Uribe, A. Savachkin, T. K. Das, A. Santana, and **D. Prieto**. A predictive decision aid methodology for dynamic mitigation of influenza pandemics. Special issue on optimization in disaster relief, *OR Spectrum* (6 May 2011), pp. 1-36.

Conference proceedings	9. G. Ostroy, **D. Prieto**, Y. Gu, E. Dedoncker and R. Paul. Flu MODELO 1.0: A Simulation Model and Graphic Interface for Training and Decision Support for Influenza Management. *IEEE International Conference on Bioinformatics and Biomedicine*, Kansas City, MO, November 2017.

10. B. Shekh, E. de Doncker, and **D. Prieto**. Hybrid multi-threaded simulation of agent-based pandemic modeling using multiple GPUs. *IEEE International Conference on Bioinformatics and Biomedicine*, Washington D.C., November 2015.

11. P. Holvenstot, **D. Prieto**, and E. Dedoncker. GPGPU Parallelization of a Self-Calibrating Agent-Based Influenza Outbreak Simulation. *High Performance Extreme Computing Conference (HPEC)*, 2014 IEEE , vol., no., pp.1-6, 9-11, September 2014.

12. M. Soto-Ferrari, P. Holvenstot, **D. Prieto**, E. Dedoncker, and J. Kapenga. Parallel programming approaches for an agent-based simulation of concurrent pandemic and seasonal influenza outbreaks. *Proceedings of the International Conference on Computational Science*, Barcelona, Spain, June 2013.

13. T. Fredericks, S. Butt, **D. Prieto**, J. Burns, K. Harms, K. Naumann, and D. Larson. Investigating vertical displacement within the aesthesiometric threshold of the thigh. *Proceedings of the 2012 Industrial and Systems Engineering Research Conference*, Orlando, FL, May 2012 .

14. **D. Prieto**, P. Rocha, W. Otieno, and T. K. Das. Work in progress - Developing elementary science teacher training modules based on doctoral research in engineering. *40th ASEE/IEEE Frontiers in Education Conference*, Washington, DC, October 2010.

15. A. Uribe, **D. Prieto**, A. Savachkin, T. K. Das, and Y. Zhu. A cross-regional pandemic outbreak simulation model: An aid to national resource allocation policy making. *Proceedings of the Third INFORMS Workshop on Data Mining and Health Informatics*, Washington, DC, October 2008.

Working papers	16. **D. Prieto**. A simulation-based evaluation of the influenza surveillance system in the U.S.

17. **D. Prieto**, R. Paul, and Y. Wu. Forecasting influenza illness trends with dynamic downscaling.

18. M. Soto, **D. Prieto**, and E. Norman. A model-driven characterization of treatment recommendations for patients with breast ductal carcinoma in situ.

FUNDING

Research **extramural funding**	Aug 2015 - Aug 2018 Sampling criteria for monitoring influenza emergencies under constrained testing capabilities CMMI-1537379 National Science Foundation Funding amount: $199,646 Principal investigator Aug 2015 - Aug 2018 REU Supplement: Sampling criteria for monitoring influenza emergencies under constrained testing capabilities CMMI-1537379 National Science Foundation Funding amount: $5,000 Principal investigator
Research **intramural funding**	Jan 2019 - June 2020 Feasibility of implementing of data-driven computational technologies to reduce waiting lists in a health delivery network for low-income patients in Chile Johns Hopkins Carey Business School Funding amount: $4,000 Principal investigator Jan 2018 - May 2018 Planning the implementation of data-driven computational technologies to reduce waiting lists in a health delivery network for low-income patients in Chile Johns Hopkins Alliance for a Healthier World Funding amount: $25,000 Principal investigator Jun 2015 - Jun 2016. A fusion method to correct for the time and population resolution of influenza like illness trends Interdisciplinary Research Initiave Award, WMU College of Arts and Sciences Funding amount: $5,000 Principal investigator(s): Rajib Paul, Diana Prieto 50% responsibility in the planning and execution of the grant June 2013 - June 2014 Model-based detection of breast cancer treatment disparities WMU Faculty, Research, and Creative Activities Award, WMU Funding amount: $9,689. Principal investigator Jan 2010 - Dec 2010 Novel dynamic data collection strategies for pandemic surveillance The Graduate Student Challenge Grant, University of South Florida Funding amount: $5,000 Principal investigator
System **innovation, quality** **improvement** **extramural funding**	Jan 2016 - Dec 2016 Jan 2015 - Dec 2015 2015 Green Manufacturing Industrial Consortium FabriKal Funding amount: $25,000 (2015), $25,000 (2016)

Principal investigator: David Meade
Co-Principal investigator - Provide expertise in data collection and analysis

May 2012 - June 2013
Cot Loading - Data Collection
Stryker Medical
Funding amount: $58,550
Principal investigator: Tycho Fredericks
Co-Principal investigator

System innovation, quality improvement intramural funding	Mar 2015 - Jul 2015 Identification of gaps in children care coordination using quality improvement techniques WMU School of Medicine - W.K. Kellogg Foundation Racial Healing Planning Grant Funding amount: $19,911 Principal investigator, 50% responsibility in the execution of the grant

RECOGNITION

Invited lectures and seminar presentations	Innovations for Humanity and Responsible Supply Chains. Thinkers Speaker Series, *Office of Trade and Labor, Committee on Business Engagement, U.S. Department of Labor*, Washington, DC, January 22, 2019.

Speeding up a pandemic simulation model for emergency response. High Performance Computational Science (CTC/HPCS) Workshop, *CUDA Teaching Center, WMU College of Engineering*, Kalamazoo, MI, August 28, 2013.

Flu epidemic modeling. A Computational Science Seminar, *WMU College of Engineering*, Kalamazoo, MI, November 2012.

Operational modeling of emerging viral infectious diseases. Providing Better Healthcare Through Systems Engineering: Seminars and Discussions, Center for Healthcare Engineering and Patient Safety (CHEPS), *University of Michigan*, Ann Arbor, MI, September 2012.

A viral count driven calibration approach for simulation models of concurrent pandemic and seasonal influenza outbreaks. Analysis Seminar, *WMU Department of Mathematics*, Kalamazoo, MI, February 2012.

A viral count driven calibration approach for simulation models of concurrent pandemic and seasonal influenza outbreaks. 2011 Statistics Colloquium,*WMU Department of Statistics*, Kalamazoo, MI, September 2011.

Surveillance systems of population health. Great Lakes International Symposium: Interdisciplinary Research in Data Science , *Western Michigan University*, Kalamazoo, MI, February 16, 2016.

RESEARCH ACTIVITIES

Research focus	Public Health Operations

Research program building/leadership	Jun 2012 - Aug 2017 Founded and took leadership of the **Health Systems Decision Support Laboratory** The lab used to provide engineering solutions that improve the operations of public and individual health systems. Services included applied operations research and data analytics. The lab sustained collaborations with regional members of the healthcare and public health community, including the Bronson Hospital, WMU Homer Stryker M.D. School of Medicine, West Michigan Cancer Center, Kalamazoo County Health and Community Services, and Michigan Department of Health and Human Services.

QUALITY IMPROVEMENT ACTIVITIES

Quality improvement focus   Provide stastistically based assessments of the performance of systems and processes.

Quality improvement efforts

Summer 2015
WMU STEM Talent Expansion Program (STEP), Kalamazoo, MI
Identification of factors that affect academic performance of STEP students

Summer 2014, Summer 2015
WMU Department of Civil Engineering
Statistical consulting for the grants:
    "Evaluation of Michigan's engineering improvements for older drivers"
    awarded by the Michigan Department of Transportation
    "Remote monitoring of fatigue sensitive details on bridges"
    awarded by the Michigan Department of Transportation

Spring 2004 - Spring 2005
Department of Mechanical Engineering, Universidad Del Norte, Barranquilla, Colombia.
Developed a time-series based algorithm for the monitoring and control of natural gas pressures
Implemented the algorithm in the regional gas distribution company (PROMIGAS)
Train the PROMIGAS process engineer in the use of the algorithm

TEACHING ACTIVITIES

Educational focus   Operations Management and Data Analytics

Teaching

Classroom instruction

Graduate courses taught at Johns Hopkins University

Date	Course	Students
Spr I 19	Data Analytics	195 students
Fall II 18	Decision Models	88 students
Fall I 18	Statistical Analysis	136 students
Sum I 18	Data Analytics	48 students
Spr I 18	Data Analytics	142 students
Fall II 17	Decision models	109 students
Fall I 17	Statistical Analysis	125 students

Graduate courses taught at Western Michigan University

Date	Course	Students
Spr/Sum/Fall 15, Spr 16	Doctoral Dissertation in Industrial Engineering	1 student/period
Spr 14/15/16, Fall 14/15	Design of Experiments & Regression Analysis	30 students/period
Sum I 14	Masters thesis in Computer Science	1 student
Sum I 13, Fall 14, Spr 15	Independent Study in Industrial Engineering	1 student/period
Sum II 13/14	Independent Research in Computer Science	1 student/period
Sum II 12/14	Independent Study in Computer Science	1 student/period

Undergraduate courses taught at Western Michigan University

Date	Course	Students
Spr 15/16	Statistical Quality Control	11 students/period
Spr 15/16	Probability for Engineers	11 students/period
Spr 12/13/14/15/16	Probability and Quality for Engineers	9-28 students/period
Spr 12	Research in Computer Science	1 student
Fall 11/12/13/14, Sum 13/14/15	Engineering Statistics	185 student/period

Mentoring

Faculty Mentees

Date	Name	Appointment
Fall 18 -	Mohammad Alamdar Yazdi	Assistant Professor, Operations Management and Business Analytics, JHU Carey School of Business

Pre-doctoral Advisees/Mentees (see section "publications" for complete reference by number)

Date	Name	Degree	Awards	Publications
Spr 18	Jingwen Shao	M.Sc. Real State		
Spr 16 -	Gregory Ostroy	BSc. Comp Sci.	NSF REU	9
Fall 15 - Spr 16	Riley Martell	High School		
Fall 15 - Spr 16	Boemin Park	High School		
Spr 15 -	Mangesh Yoshi	M.Sc. Ind. Eng.		
Spr 15 -	Yuwen Gu	Ph.D. Ind. Eng.		17, 9
Fall 14 - Spr 15	Grant Lukjan	B.Sc. Ind. Eng.		
Fall 14 - Spr 15	Darwin Haines	B.Sc. Ind. Eng.		
Fall 14 - Spr 15	R. De La Paz	B.Sc. Ind. Eng.		
Fall 14 - Spr 15	Luke Bednarczyk	B.Sc. Ind. Eng.		
Spr 13 - Sum 14	Lorena Pena	B.Sc. Ind. Eng.		2
Fall 12 - Spr 17	Milton Soto	Ph.D. Ind. Eng.	Colciencias scholarship 2016 Dept. award 2016 University award	2, 3, 12, 18

Date	Name	Degree	Awards	Publications
Fall 12 - Spr 15	Eric Meisheri	M.Sc. Ind. Eng.	K. Knight Scholarship	6
Sum 12	Jacob Hill	B.Sc. Ind. Eng.		
Sum 12	Elias Javier	B.Sc. Ind. Eng.		
Sum 12 - Fall 13	Rindy	B.Sc. Chem Eng.		2
Spr 12	Evan Maltas	B.Sc. Ind. Eng.		
Spr 12	Dustin Youtsis	B.Sc. Ind. Eng.		
Spr 12	Robert Buelke	B.Sc. Comp Sci.		
Spr 12 - Sum 14	Peter Holvenstot	M.Sc. Comp Sci.	2014 University award	6,11,12

Thesis committees

Fall 17 -	Yuwen Gu	Ph.D. Ind. Eng	Committee member
Fall 17	Bajel Al Shadeedi	MSc. Industrial Engineering	Committee member
Spr 15	Nolen Akerman	Ph.D. Engineering Management	Committee member
Sum 15	Lussani Acosta	MSc. Civil Engineering	Committee member
Sum 15	Barzan Shekh	MSc. Computer Science	Committee member
Spr 15	Benjamin Binoniemi	MSc. Industrial Engineering	Committee member
Fall 13	Ling Kit Kong	MSc. Civil Engineering	Committee member

Educational Program Building

Date	Role - % effort	Education Program	Explanatory notes
2013	Design, implementation - 70 %	Probablity for Engineers	Half a semester course in replacement of a whole semester course titled "Probability and quality for Engineers"
2013	Design, implementation - 70 %	Statistical Quality Control	Half a semester course in replacement of a whole semester course titled "Probability and quality for Engineers"
2012	Design, implementation - 100 %	Statistics and Evidence-based Medicine	Half a day workshop for orthopedic surgery residents from the Kalamazoo Center for Medical Studies

SCHOOL AND PROFESSIONAL SERVICE

Institutional administrative appointments	Date	Role	Committees	Explanatory notes
	Fall 2018 -	Member	Curriculum subcommittee - Operations Management and Business Analytics	JHU Carey School of Business
	Spr 2018	Member	Search Committee for Practice Track Faculty	JHU Carey School of Business
	Sum 2016	Member	Strategic Planning Committee for Graduate Education	WMU college of engineering
	Fall 2012 -	Member	Grade and Program Dismissal Appeal Committee	Office of the Ombudsman, Western Michigan University
	Fall 2011 -	Member	Healthcare engineering initiative	WMU college of engineering

Advisory committees, review groups, Meetings	Date	Role	Sponsor/organization/group
	Mar 2019	Observer	Faculty peer class observation initiative, JHU Carey School of Business
	Mar 2019	Speaker	Lunch and Learn meeting with the staff at the JHU Carey School of Business
	Nov 2018	Presenter	I4H workshop, JHU Carey School of Business
	Oct 2018	Participant	Meeting with the Office of Child Labor, Forced Labor and Human Trafficking, Bureau of International Labor Affairs, U.S. Department of Labor
	Oct 2018	Host at JHU Carey School of Business	Meeting with DyA, a Latin American NGO representatives dedicated to implement programs to eliminate dangerous child labor
	Oct 2018	Host	Invited speaker at QBESS seminar
	Aug 2018	Presenter	Faculty Panel for the Masters of Science in Business Analytics and Risk Management, JHU Carey School of Business
	May 2018	Participant	Hopkins Health, Labor, Education, and Development Economics Conference
	Confidential	Reviewer and member	Proposal review panel, National Science Foundation
	Spr 2011 - Spr 2012	Participant	National workgroup for "Identifying key components of a successful operational epidemiological modeling process", organized by Yale New Haven Health Center for Emergency Preparedness and Disaster Response and the US Northern Command

Journal peer review activities	Date	Journal name
	Jun 2015	BMC Public Health journal
	Jun 2013	IIE Transactions in Healthcare
	Jun 2013	DYNA
	Jun 2013	Proceedings of the International Conference on Computational Science

Professional societies	
	Institute for Operations Research and Management Sciences (INFORMS)
	Institute of Industrial Engineers (IIE)
	Industrial Engineering Honor Society, Alpha Pi Mu
	Healthcare Systems Engineering Alliance (HSEA)
	Society of Hispanic Professional Engineers (SHEP)

Session chair	Date	Sponsor/organization/group	Session title
	Nov 2015	INFORMS Conference	Health policy
	May 2012	IIE Conference	Disease modeling and surveillance

PROFESSIONAL DEVELOPMENT

Training	Teaching			
	Date	Role	Activity	Explanatory notes
	Mar 2019	Student	Case study workshop	Johns Hopkins Carey School of Business
	Jul 2018	Observed in class	Faculty peer class observation initiative	Johns Hopkins Carey School of Business

OTHER PROFESSIONAL ACCOMPLISHMENTS

Conference and poster presentations

Research

Y. Gu, D. Prieto, Assessing accuracy of influenza incidence characterization during an emergency.*INFORMS Annual Meeting*, Houston, TX, October 2017).

M. Soto, D. Prieto. Data Driven Monitoring of Medical Recommendations for Breast Cancer Treatment. *INFORMS Annual Meeting*, Philadelphia, PA, November 2015.

M. Soto, D. Prieto, E. Norman, L. Burke, and J. Mirro. Assessing treatment disparities in breast cancer patients. WMU Research and Creative Activities Poster Day, Kalamazoo, MI, April 2015.

D. Prieto. Factors Influencing Healthcare Disparities in Breast Cancer Patients: A Review. *INFORMS Annual Meeting*, San Francisco, CA, November 2014.

E. Meisheri, P. Holvenstot, D. Prieto, and R. VanEnk. Impact of the Disease Surveillance System in Epidemiologic Characterization of Pandemic Outbreaks. *INFORMS Annual Meeting*, San Francisco, CA, November 2014.

M. Soto, L. Pena, and D. Prieto. Bayesian Network Detection of Breast Cancer Disparities. *INFORMS*, San Francisco, CA, November 2014.

M. Soto, D. Prieto, and Rindy. Understanding interactions among factors influencing treatment disparities in breast cancer patients. *INFORMS Healthcare 2013*, Chicago, IL, Summer 2013.

E. Meisheri, D. Prieto, and P. Holvenstot. Impact of the disease surveillance system in the epidemiologic characterization of pandemic outbreaks *INFORMS Healthcare 2013*, Chicago, IL, Summer 2013.

D. Prieto. Operational modeling of pandemic and endemic influenza outbreaks *INFORMS Healthcare 2013*, Chicago, IL, Summer 2013.

D. Prieto and T. K. Das. Calibrating epidemiological parameters of influenza simulation models in

short decision cycles. *INFORMS Annual Meeting* conference, Phoenix, AZ, October 2012.

D. Prieto and T. K. Das.A real-time policy to select specimens for lab confirmatory testing during pandemic influenza outbreaks *IIE*, Orlando, FL, May 2012.

D. Prieto and T. K. Das. A testing strategy of influenza-like illness specimens for real-time characterization of pandemic outbreaks *INFORMS Annual Meeting*, Charlotte, NC, November 2011.

D. Prieto, S. Malavade, A. Santana, T.K. Das, and A. Savachkin. Real-time data collection strategies for pandemic outbreaks. *2010 Centers for Disease Control and Prevention (CDC) Conference "Modeling for public health action: from epidemiology to operations"*, Atlanta, GA, December 2010.

D. Prieto, T. K. Das, S. Malavade, A. Santana, and A. Savachkin. Models for public health crisis management during a pandemic. *INFORMS*, Austin, TX, November 2010.

D. Prieto, T. K. Das, A. Savachkin, and A. Uribe. Real-time applicability of pandemic modeling approaches. *INFORMS*, San Diego, CA, October 2009.

A. Uribe, D. Prieto, A. Savachkin T. K. Das, and Y. Zhu. A cross-regional pandemic outbreak simulation model: An aid to national resource allocation policy making. *Third INFORMS Workshop on Data Mining and Health Informatics*, WA, DC, October 2008.

A. Savachkin, T. K. Das, D. Prieto, and A. Uribe. A simulation-based optimization model for dynamic resource utilization at federal and local levels during cross-regional pandemic outbreaks. *INFORMS*, Seattle, WA, November 2007.

Educational

D. Prieto, P. Rocha, W. Otieno, and T.K. Das. Work in progress - Developing elementary science teacher training modules based on doctoral research in engineering. *40th ASEE/IEEE Frontiers in Education Conference*, Washington, DC, October 2010.

D. Prieto, V. Nanduri, W. Otieno, J. Fuentes, C. Leacock, and J. Kemp. STARS Mentor teacher workshops in collaboration with the Hillsborough School District in Tampa FL. *Annual NSF GK-12 Conference*, Washington, DC, April 2009.

D. Prieto, V. Nanduri, W. Otieno, J. Fuentes, C. Leacock, J. Kemp, and T. K. Das. Train the trainers: STARS mentor teacher workshops. Poster presentation, *Annual NSF GK-12 Conference Conference*, Washington, DC, April 2009.

D. Walker, J. Weber, V. Nanduri, D. Prieto, and T. K. Das. Building the foundations of nanotechnology: From the classroom to the laboratory. Poster presentation, *Annual NSF GK-12 Conference Conference*, Washington, DC, March 2008.