Daniela Andrea HURTADO LANGE

E-mail address: daniela.hurtado@kellogg.northwestern.edu | Website: https://daniela-hl.github.io/
Mailing address: 2211 Campus Drive, Office 4125, Evanston, IL 60208
Last update: July 29, 2026

Educational background

Ph.D. in Operations Research (Dec. 2021)
Georgia Institute of Technology – Atlanta, Georgia; Advisor: Prof. Siva Theja Maguluri

Master of Science in Industrial Engineering (Jul. 2016)
Pontificia Universidad Católica de Chile – Santiago, Chile; Advisor: Prof. Pedro Gazmuri

Industrial Engineer with Diploma in Math Engineering (Jul. 2016)
Pontificia Universidad Católica de Chile – Santiago, Chile; *Maximum distinction*

Bachelor in Engineering (Dec. 2013)
Pontificia Universidad Católica de Chile – Santiago, Chile; *With distinction*

Work experience

Kellogg School of Management, Northwestern University
Assistant Professor of Operations (Sep. 2024 to date)
Drake Scholar, Donald P. Jacobs Scholar (Jul. 2023 – Aug. 2024)

Mathematics Department, William & Mary
Assistant Professor of Mathematics (Jan. 2022 – Jun. 2023)

Amazon.com Services LLC
Research Scientist Intern (May – Aug. 2021)

Industrial & Systems Engineering, Georgia Institute of Technology
Graduate Research Assistant and Graduate Teaching Assistant (Aug. 2016 – Dec. 2021)

Industrial & Systems Engineering, Pontificia Universidad Católica de Chile
Lecturer (Mar. – Jul. 2016)

Alcon Chile
Summer Intern (Dec. 2012 – Feb. 2013)

Research interests

Applied probability; Queueing theory; Stochastic processing networks; Heavy-traffic analysis; Design of service systems.

Publications

Work in process

[14] **Hurtado-Lange, D.** and Grosof, I. Heavy-traffic and state space collapse analysis for parallel-server networks with Markov-modulated inputs.

[13] van Kempen, S., Varma, S. M., **Hurtado-Lange, D.**, and Sloothaak, F. A priority policy for a skill-based parallel-server network: δ fluid-optimality and heavy-traffic guarantees.

Working papers under revision

[11] **Hurtado-Lange, D.** and Grosof, I. (2026). Markov modulated JSQ in heavy traffic via the Poisson equation.

[10] Grosof, I. and **Hurtado-Lange, D.** (2026). Outperforming multiserver SRPT at all loads. Journal version of conference paper [9]. Minor revision from Operations Research journal.

[8] Jhunjhunwala, P., **Hurtado-Lange, D.**, and Maguluri, S. T. (2026). Exponential tail bounds on queues: A confluence of non-asymptotic heavy-traffic and large deviations. Journal version of conference paper [7].

Refereed publications and forthcoming

[12] Varma, S. M., Jhunjhunwala, P., **Hurtado-Lange, D.**, and Maguluri, S. T. (2026). Transform method for stochastic processing and matching networks. In: *TutORials in Operations Research*. INFORMS. 2026 INFORMS TutORials in Operations Research. To appear.

[9] Grosof, I. and **Hurtado-Lange, D.** (2026). Outperforming multiserver SRPT at all loads. In: *Abstracts of the 2026 ACM SIGMETRICS International Conference on Measurement and Modeling of Computer Systems*. SIGMETRICS Abstracts '26. USA: Association for Computing Machinery, pp. 64–66.

[7] Jhunjhunwala, P., **Hurtado-Lange, D.**, and Maguluri, S. T. (2023). Exponential tail bounds on queues. In: *ACM SIGMETRICS Performance Evaluation Review*. Vol. 51. 2, pp. 24–26.

[6] **Hurtado-Lange, D.**, Varma, S. M., and Maguluri, S. T. (2022). Logarithmic heavy traffic error bounds in generalized switch and load balancing systems. In: *Journal of Applied Probability* 59.3, pp. 652–669.

[5] **Hurtado-Lange, D.** and Maguluri, S. T. (2022). A load balancing system in the many-server heavy-traffic asymptotics. In: *Queueing Systems* 101.3, pp. 353–391.

[4] **Hurtado-Lange, D.** and Maguluri, S. T. (2022). Heavy-traffic analysis of queueing systems with no complete resource pooling. In: *Mathematics of Operations Research* 47.4, pp. 3129–3155. ⋆ Second prize, 2020 Junior Faculty Interest Group (JFIG) Paper Competition. Journal version of conference paper [2].

[3] **Hurtado-Lange, D.** and Maguluri, S. T. (2021). Throughput and delay optimality of power-of-d choices in inhomogeneous load balancing systems. In: *Operations Research Letters* 49.4, pp. 616–622.

[2] **Hurtado-Lange, D.** and Maguluri, S. T. (2020). Heavy-traffic analysis of the generalized switch under multidimensional state space collapse. In: *ACM SIGMETRICS Performance Evaluation Review*. Vol. 47. 2, pp. 36–38. Acceptance rate 15%. A preliminary version appeared at the MAMA workshop, ACM SIGMETRICS 2019 (abstract).

[1] **Hurtado-Lange, D.** and Maguluri, S. T. (2020). Transform methods for heavy-traffic analysis. In: *Stochastic Systems* 10.4, pp. 275–309.

Selected presentations

A selection of recent talks appears below. Slides and videos (when recorded), together with a complete list of seminars and posters, are available on my website.

Workshops and conference presentations

- **Transform Methods for Markov-Modulated Queues**
  November 2025 – YEQT 2025 – Eindhoven, Netherlands
  October 2025 – INFORMS 2025 – Atlanta, GA
  July 2025 – APS Conference 2025 – Atlanta, GA
  October 2024 – INFORMS 2024 – Seattle, Washington (introduction to the problem and methodology)
- **Exponential Tail Bounds on Queues**
  September 2024 – Allerton conference at UIUC – Urbana, Illinois
- **Efficient Algorithm For Transient Analysis Of Cox/M/m Queues**
  August 2024 – CanQueue 2024 – Edmonton, Alberta, Canada
  October 2023 – INFORMS 2023 – Phoenix, Arizona
- **Queue Length Behavior in Load Balancing Systems Under Power-of-d Choices: Many-Server Heavy-Traffic Regime**
  October 2021 – INFORMS 2021 – Anaheim, California and online
- **Load Balancing System under JSQ and Power-of-d: Many-Server Heavy-Traffic Asymptotics**
  November 2020 – INFORMS 2020 – Held online
- **Heavy-Traffic Analysis of the Generalized Switch under Multidimensional State Space Collapse**
  June 2020 – SIGMETRICS 2020 – Held online
  October 2019 – INFORMS 2019 – Seattle, Washington

June 2019 – MAMA Workshop at ACM SIGMETRICS 2019 – Phoenix, Arizona (preliminary version)

- **Transform Methods for Heavy-Traffic Analysis**
  June 2019 – INFORMS-APS 2019 – Brisbane, Australia

Seminar presentations

- **Transform Method for Markov-Modulated Queues**
  December 2025 – SNAPP seminar – Held online
- **Transform Method for Heavy-Traffic Analysis: A Tutorial**
  December 2024 – Math Department, William & Mary – Williamsburg, Virginia
- **Performance Analysis of Data Center Networks: Drift Method and Transform Techniques**
  October 2024 – ORIE, Cornell University – Ithaca, New York
  July 2024 – Industrial and Systems Engineering Department, Pontificia Universidad Católica de Chile – Santiago, Chile
  October 2022 – Kellogg School of Management, Northwestern University – Evanston, Illinois
- **Minimizing Delay in Supermarket-Checkout Systems**
  April 2022 – Math department at William & Mary

Selected scholarships and awards

- Sigma Xi Best Ph.D. Thesis Award (Fall 2022) – Georgia Tech
- Ed Iacobucci Fellowship for Excellence in Research: Applied Probability & Simulation (Spring 2021) – Georgia Tech, ISyE
- Honorable mention, Alice and John Jarvis Research Award (Spring 2020) – Georgia Tech, ISyE
- BECAS CHILE graduate scholarship (2018–2021) – Chilean government

Teaching experience

Instructor

Kellogg School of Management, Northwestern University – MBA

- Core Operations Management (OPNS 430)
  Full-time MBA (Spring 2024), Master in Management (Winter 2025–26), Evening & Weekend (Winter 2025–26)

William & Mary, Mathematics

- Operations Research: Deterministic Models (MATH 323); Undergraduate level; Fall 2022, Spring 2022
- Elementary Probability & Statistics (MATH 106); Undergraduate level; Fall 2022
- Analysis of Stochastic Networks (CSCI 688); Master's level; Spring 2022
- Pre-calculus boot camp (co-taught mini-course); Summer 2022

Georgia Tech / PUC Chile (as a graduate student)

- Engineering Optimization (ISYE 3133), Hybrid class; Undergraduate level; Fall 2020
- Pre-academic physics, PUC (online mini-course); August 2020
- Stochastic Models (ICS 2123), Undergraduate level; PUC Chile; Mar.–Jul. 2016

Teaching assistant

- Georgia Tech, ISyE (*2016–2021*):
  Stochastic Processes I (Ph.D.), Statistics & Applications (MS), Special Topics: Math of OR (Ph.D.), Probabilistic Models (MS), Simulation Analysis & Design (UG).
- PUC Chile (*2010–2015*):
  Graduate and undergraduate courses including Advanced Stochastic Models, Marketing, Stochastic Models, Probability & Statistics, Linear Algebra, and Introduction to Calculus.

Mentoring

- Research mentoring of Master's, undergraduate, and junior Ph.D. students at William & Mary and Georgia Tech, including the SURE program (Summers 2018–2019).
- Academic mentoring at PUC Chile through Talent + Inclusion (2014–2015) and CARA UC (2013–2015), the latter as coordinator of math mentors.

Professional service

Professional and organizational roles

- Applied Probability Society (APS) Council – *2026–2028*
  * Nominated by 2025 council members, voted by INFORMS APS members
- Webmaster for INFORMS Applied Probability Society (APS) – *Jan. – Dec. 2025*
- Website and communications chair for 2025 INFORMS APS Conference – *Jun. 2024 – Jul. 2025*
- SIGMETRICS Webmaster – *Dec. 2019 – Dec. 2023*
- ISyE Student Seminars Organization Committee – *2018–2021*
  Industrial and Systems Engineering Department at Georgia Institute of Technology – Atlanta, Georgia

Conference and workshop sessions

- Chair in session named "Top-notch Applications of Queueing Theory"
  INFORMS 2025 – *Oct. 2025* – Atlanta, GA, USA
- Organizer and chair of "Women in APS" panel
  APS 2025 – *Jul. 2025* – Atlanta, GA, USA
- Chair in session named "New Developments in Queueing and Learning"
  APS 2025 – *Jul. 2025* – Atlanta, GA, USA
- Chair in session named "Queueing and Applications"
  INFORMS 2024 – *Oct. 2024* – Seattle, WA, USA
- Chair in session named "Queueing Theory and Applications"
  INFORMS 2023 – *Oct. 2023* – Phoenix, AZ, USA
- Chair in session named "Recent Advances in Parallel-Server Systems" in the Applied Probability Society (APS) cluster
  INFORMS 2022 – *Oct. 2022* – Indianapolis, IN, USA
- Chair in session named "Recent Advances in Parallel-Server Systems"
  2022 CORS/INFORMS International Conference – *Jun. 2022* – Vancouver, Canada
- Chair in session named "Advances on Queueing and Learning" in the Applied Probability Society (APS) cluster
  INFORMS 2021 – *Oct. 2021* – Anaheim, CA, USA
- Co-chair in session named "Asymptotic Analysis of Stochastic Processing Networks" in the APS cluster
  INFORMS 2020 – *Nov. 2020* – Held online

Refereeing and competition judging

- Actively refereeing: Applied Probability Journals (AP), Annals of Operations Research (ANOR), Institute of Industrial and Systems Engineers (IISE) Transactions (UIIE), Management Science (MS-OPM), Operations Research Letters (ORL), Operations Research (OPRE), Queueing Systems (QUESTA), Performance Evaluation (PEVA), Stochastic Models (LSTM), Stochastic Systems (SSY), IEEE/ACM Transactions on Networking (ToN).
- Past refereeing: SIGMETRICS, MobiHoc, and IFIP Performance (conference submissions).
- Student paper competition judging: George Nicholson Student Paper Competition (2024), APS Student Paper Competition (2025–2026), MSOM Student Paper Competition (2025–2026), Stochastic Networks Conference Poster Competition (2026).

Professional associations

- INFORMS: Applied Probability Society (APS), Junior Faculty Interest Group (JFIG), Minority Issues Forum (MIF), WORMS Forum
- Institute of Mathematical Statistics (IMS): Stochastic Networks
- Sigma Xi Research Society (2022–2023).
  * Membership granted as part of the Sigma Xi Best Ph.D. Thesis Award in 2022

Languages

- Spanish: Native speaker
- English: Full professional proficiency