PEDRO NASCIMENTO DE LIMA

Associate Engineer, RAND Corporation
Professor of Policy Analysis, Pardee RAND Graduate School
www.pedrodelima.com

SUMMARY

Pedro Nascimento de Lima is an associate engineer at RAND and a professor at the Pardee RAND Graduate School. His research focuses on using computational models to inform complex policy decisions, particularly in situations characterized by deep uncertainty. At RAND, Nascimento de Lima's research spans multiple domains, including pandemic response strategies, optimization of cancer screening recommendations, and policies to address racial wealth disparities in the United States.

Nascimento de Lima is the Membership Chair of the Society for Decision Making Under Deep Uncertainty, an international, interdisciplinary organization dedicated to developing robust solutions for highly uncertain policy challenges. Nascimento de Lima earned his Ph.D. in policy analysis from the Pardee RAND Graduate School. He also holds a B.S. and an M.S. in production engineering from Universidade do Vale do Rio dos Sinos in Brazil.

EDUCATION

Pardee RAND Graduate School, *Santa Monica, CA*
Ph.D. in Policy Analysis   *Oct 2022*
M.Phil. in Policy Analysis   *Dec 2020*

UNISINOS University, *São Leopoldo, Brazil*
M.S. in Production Engineering   *Feb 2018*
B.S. in Production Engineering   *Mar 2016*

PROFESSIONAL EXPERIENCE

RAND Corporation   *Arlington, VA*
Associate Engineer   *Oct. 2022 - present*
Assistant Policy Researcher   *Sep. 2019 - Oct. 2022*

Pardee RAND Graduate School   *Arlington, VA*
Professor of Policy Analysis   *Jun. 2024 - present*

Argonne National Laboratory   *Lemont, IL*
Visiting Graduate Student - *Decision and Infrastructure Sciences Division*   *Dec. 2020 - Dec 2022*

University of Southern California   *Los Angeles, CA*
Adjunct Instructor - *USC Sol Price School of Public Policy*   *Aug. 2021 - Dec. 2021*

UNISINOS University   *São Leopoldo, Brazil*
Lecturer - Polytechnic School   *Feb. 2018 - Jun. 2019*
Research Assistant   *Feb. 2016 - Feb. 2018*
Undergraduate Research Intern   *Jun. 2013 - Feb. 2016*

Rede Industrial   *Presidente Lucena, Brazil*
Chief Analyst   *Jan. 2012 - Jun. 2013*
Business Analyst   *Jan. 2009 - Jan. 2012*

PUBLICATIONS

Public-facing peer-reviewed papers, RAND reports, and pre-prints.

[1] **Nascimento de Lima**, P., Matrajt, L., Coronado, G., Escaron, A. L., & Rutter, C. M. (2025). Cost-Effectiveness of Noninvasive Colorectal Cancer Screening in Community Clinics. *JAMA Network Open*, *8*(1), e2454938. https://doi.org/10.1001/jamanetworkopen.2024.54938

[2] Faherty, L. J., **Nascimento de Lima**, P., Lim, J. Z., Roberts, D., Karr, S., Lawson, E., & Willis, H. H. (2024). Effects of non-pharmaceutical interventions on COVID-19 transmission: Rapid review of evidence from Italy, the United States, the United Kingdom, and China [Publisher: Frontiers]. *Frontiers in Public Health*, *12*. https://doi.org/10.3389/fpubh.2024.1426992

[3] Lieberman, D. A., Shaukat, A., May, F. P., Carethers, J. M., Lansdorp-Vogelaar, I., Ladabaum, U., Church, T. R., Davis, A., Doubeni, C. A., Inadomi, J. M., Wender, R. C., **Nascimento de Lima**, P., & van den Puttelaar, R. (2024). Commentary: Liquid biopsy for average-risk colorectal cancer screening. *Clinical Gastroenterology and Hepatology*. https://doi.org/10.1016/j.cgh.2024.01.034

[4] Nowak, S., **Nascimento de Lima**, P., & Vardavas, R. (2024). The cost of myopic pandemic response. *medRxiv*. https://doi.org/10.1101/2024.02.19.24303020

[5] Pineda-Antunez, C., Seguin, C., van Duuren, L. A., Knudsen, A. B., Davidi, B., **Nascimento de Lima**, P., Rutter, C., Kuntz, K. M., Lansdorp-Vogelaar, I., Collier, N., Ozik, J., & Alarid-Escudero, F. (2024). Emulator-based bayesian calibration of the cisnet colorectal cancer models [PMID: 38858832]. *Medical Decision Making*, *0*(0), 0272989X241255618. https://doi.org/10.1177/0272989X241255618

[6] **Nascimento de Lima**, P., Karr, S., Lim, J. Z., Vardavas, R., Roberts, D., Kessler, A., Awan, J., Faherty, L. J., & Willis, H. H. (2024). The Value of Environmental Surveillance for Pandemic Response. https://doi.org/10.7249/WRA3263-1

[7] **Nascimento de Lima**, P., Rutter, C. M., Van Den Puttelaar, R., Hahn, A. I., Ozik, J., Collier, N., Zauber, A. G., Lansdorp-Vogelaar, I., & Inadomi, J. M. (2024). Response to Hu, Yang, and Sun. *JNCI: Journal of the National Cancer Institute*, djae341. https://doi.org/10.1093/jnci/djae341

[8] **Nascimento de Lima**, P., Van Den Puttelaar, R., Knudsen, A. B., Hahn, A. I., Kuntz, K. M., Ozik, J., Collier, N., Alarid-Escudero, F., Zauber, A. G., Inadomi, J. M., Lansdorp-Vogelaar, I., & Rutter, C. M. (2024). Characteristics of a cost-effective blood test for colorectal cancer screening. *JNCI: Journal of the National Cancer Institute*, djae124. https://doi.org/10.1093/jnci/djae124

[9] van den Puttelaar, R., **Nascimento de Lima**, P., Knudsen, A. B., Rutter, C. M., Kuntz, K. M., de Jonge, L., Escudero, F. A., Lieberman, D., Zauber, A. G., Hahn, A. I., Inadomi, J. M., & Lansdorp-Vogelaar, I. (2024). Effectiveness and cost-effectiveness of colorectal cancer screening with a blood test that meets the centers for medicare medicaid services coverage decision. *Gastroenterology*. https://doi.org/10.1053/j.gastro.2024.02.012

[10] Van Den Puttelaar, R., **Nascimento de Lima**, P., & Lansdorp-Vogelaar, I. (2024). Reply to Aziz et al and to Das et al. *Gastroenterology*, *167*(7), 1503–1504. https://doi.org/10.1053/j.gastro.2024.08.028

[11] Vardavas, R., Armour, P., Katragadda, S. P., Pujol-Mitchell, T., **Nascimento de Lima**, P., Fateh, B., Hernandez, H., Yi, S., Rojas Aguilera, J., & Gadwah-Meaden, C. (2024). *Cost-Benefit Analysis of Comprehensive Military Eye Examination Policies* (tech. rep.). RAND Corporation. Retrieved October 30, 2024, from https://www.rand.org/pubs/research_reports/RRA2188-1.html

[12] Vardavas, R., **Nascimento de Lima**, P., Baker, L., Crowley, C., Carman, K. G., & Abir, M. (2024). Modeling the Disruptive Impact of the COVID-19 Pandemic on Nurses' Supply and Wages. https://doi.org/10.7249/WRA1444-1

[13] Griffin, B. A., Schuler, M. S., Stone, E. M., Patrick, S. W., Stein, B. D., **Nascimento de Lima**, P., Griswold, M., Scherling, A., & Stuart, E. A. (2023). Identifying Optimal Methods for Addressing Confounding Bias When Estimating the Effects of State-level Policies. *Epidemiology*, *34*(6). https://doi.org/10.1097/EDE.0000000000001659

[14] Nowak, S. A., **Nascimento de Lima**, P., & Vardavas, R. (2023). Optimal non-pharmaceutical pandemic response strategies depend critically on time horizons and costs. *Scientific Reports*, *13*(1), 2416. https://doi.org/10.1038/s41598-023-28936-y

[15] Osoba, O. A., Welburn, J. W., Lamb, J., **Nascimento de Lima**, P., & Kumar, K. B. (2023). *Exploring Intergenerational Wealth Transfer Dynamics with Agent-Based Models*. RAND Corporation. https://doi.org/10.7249/WRA1259-8

[16] Rutter, C. M., **Nascimento de Lima**, P., Maerzluft, C. E., May, F. P., & Murphy, C. C. (2023). Black-White disparities in colorectal cancer outcomes: a simulation study of screening benefit. *JNCI Monographs*, *2023*(62), 196–203. https://doi.org/10.1093/jncimonographs/lgad019

[17] **Nascimento de Lima**, Lamb, J., Osoba, O., & Welburn, J. (2023). Modeling America's Racial Wealth Disparities: Mathematical Models Help Chart Pathways for Closing Racial Wealth Gaps. *Notices of the American Mathematical Society*, *70*(07), 1. https://doi.org/10.1090/noti2743

[18] **Nascimento de Lima**, P., Teixeira, R., Wolf Motta Morandi, M. I., Lacerda, D. P., & Popper, S. W. (2023). Selective Openness in the Additive Manufacturing Industry: An Exploratory Modeling Analysis. In J. C. dos Reis, F. G. Mendonça Freires, & M. Vieira Junior (Eds.), *Industrial engineering and operations management* (pp. 235–247). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-47058-5_19

[19] **Nascimento de Lima**, P., van den Puttelaar, R., Hahn, A. I., Harlass, M., Collier, N., Ozik, J., Zauber, A. G., Lansdorp-Vogelaar, I., & Rutter, C. M. (2023). Projected long-term effects of colorectal cancer screening disruptions following the COVID-19 pandemic. *eLife*, *12*, 1–16. https://doi.org/10.7554/eLife.85264

[20] **Nascimento de Lima**, Stevens, A., Vardavas, R., Ozik, J., & Lempert, R. J. (2023). *Co-Designing Capabilities for a Robust Pandemic Response: Stakeholder Engagement for Visioning, Backcasting, and Evaluating New Decision-Support Capabilities*. RAND Corporation. https://doi.org/10.7249/WRA3085-1

[21] van den Berg, D. M., **Nascimento de Lima**, P., Knudsen, A. B., Rutter, C. M., Weinberg, D., Lansdorp-Vogelaar, I., Zauber, A. G., Hahn, A. I., Escudero, F. A., Maerzluft, C. E., Katsara, A., Kuntz, K. M., John, M., Collier, N., Ozik, J., van Duuren, L. A., van den Puttelaar, R., Harlass, M., Seguin, C. L., … de Jonge, L. (2023). NordICC Trial Results in Line With Expected Colorectal Cancer Mortality Reduction After Colonoscopy: A Modeling Study. *Gastroenterology*, 1–3. https://doi.org/10.1053/j.gastro.2023.06.035

[22] Rutter, C. M., **Nascimento de Lima**, P., Lee, J. K., & Ozik, J. (2022). Too Good to Be True? Evaluation of Colonoscopy Sensitivity Assumptions Used in Policy Models. *Cancer Epidemiology Biomarkers Prevention*. https://doi.org/10.1158/1055-9965.EPI-21-1001

[23] **Nascimento de Lima**, P. (2022). *Robust Decision Making in Health Policy: Applications to COVID-19 and Colorectal Cancer*. RAND Corporation. https://doi.org/10.7249/RGSDA2531-1

[24] Welburn, J. W., **Nascimento de Lima**, P., Kumar, K. B., Osoba, O. A., & Lamb, J. (2022). *Overcoming Compound Racial Inequity: Policies and Costs for Closing the Black-White Wealth Gap*. RAND Corporation. https://doi.org/10.7249/RRA1259-2

[25] **Nascimento de Lima**, P., Lempert, R., Vardavas, R., Baker, L., Ringel, J., Rutter, C. M., Ozik, J., & Collier, N. (2021). Reopening California: Seeking robust, non-dominated COVID-19 exit strategies (D. Pamucar, Ed.). *PLOS ONE*, *16*(10), e0259166. https://doi.org/10.1371/journal.pone.0259166

[26] **Nascimento de Lima**, P., Vardavas, R., Baker, L., Ringel, J., Lempert, R. J., Rutter, C. M., & Ozik, J. (2021). *Reopening Under Uncertainty: Stress-Testing California's COVID-19 Exit Strategy* (tech. rep. No. May). RAND Corporation. Santa Monica, CA. https://doi.org/10.7249/PEA1080-1

[27] Vardavas, R., **Nascimento de Lima**, P., & Baker, L. (2021). Could periodic nonpharmaceutical intervention strategies produce better COVID-19 health and economic outcomes? *Journal on Policy and Complex Systems*, *7*(1). https://doi.org/10.18278/jpcs.7.1.8

[28] Vardavas, R., **Nascimento de Lima**, P., Davis, P. K., Parker, A. M., & Baker, L. (2021). Modeling Infectious Behaviors: The Need to Account for Behavioral Adaptation in COVID-19 Models. *Journal on Policy and Complex Systems*, *7*(1), 21–32. https://doi.org/10.18278/jpcs.7.1.3

[29] Vardavas, R., Strong, A., Bouey, J., Welburn, J., **Nascimento de Lima**, P., Baker, L., Zhu, K., Priest, M., Hu, L., & Ringel, J. (2020). *The Health and Economic Impacts of Nonpharmaceutical Interventions to Address COVID-19: A Decision Support Tool for State and Local Policymakers* (tech. rep.). RAND Corporation. https://doi.org/10.7249/tla173-1

[30] Dresch, A., Veit, D. R., **Nascimento de Lima**, P., Lacerda, D. P., & Collatto, D. C. (2019). Inducing Brazilian manufacturing SMEs productivity with Lean tools. *International Journal of Productivity and Performance Management*, *68*(1), 69–87. https://doi.org/10.1108/IJPPM-10-2017-0248

[31] **Nascimento de Lima**, P., Dresch, A., & Lacerda, D. P. (2019). Do Socioeconomic Contextual Factors Influence SMEs Service Quality? A cross-sector and cross-city SERVPERF analysis. *International Journal of Business Performance Management*. https://doi.org/10.1504/IJBPM.2019.101998

[32] Veit, D. R., Larcerda, D. P., Morandi, M. I. W. M., Dresch, A., & **Nascimento de Lima**, P. (2019). The impacts of Additive Manufacturing on production systems. In J. Mula, R. Barbastefano, M. Díaz-Madroñero, & Raúl Poler (Eds.), *Lecture notes in management and industrial engineering* (pp. 187–194). Springer. https://doi.org/10.1007/978-3-319-93488-4

[33] Tegner, M. G., **Nascimento de Lima**, P., Veit, D. R., & Neto, S. L. H. C. (2016). Lean office e BPM: Proposição e aplicação de método para a redução de desperdícios em áreas administrativas. *Revista Produção Online*, *16*(3), 1007–1032. https://doi.org/10.14488/1676-1901.v16i3.2308

[34] Rodrigues, L. H., Ahlert, F., Pacheco Lacerda, D., Riehs Camargo, L. F., & **Nascimento de Lima**, P. (2014). *Pesquisa operacional - programação linear passo a passo - do entendimento do problema à interpretação da solução*. http://biblioteca.asav.org.br/vinculos/000045/000045c5.pdf

DISTINCTIONS AND AWARDS

RAND Silver Medal Award   *RAND Corporation, 2021*
Alongside Lawrence Baker, Raffaele Vardavas, Alyson Youngblood, and Heather McCracken, for developing RAND's COVID-19 State policy tool.

Innovation Spotlight Award   *RAND Corporation, 2020*
For developing the FAM Explorer R package - An interactive visualization tool for FAM-based dynamic microsimulation models.

Best Brazilian Production Engineering Undergrad Dissertation (Advisor)   *ABEPRO, 2019*
Title: Process Mining and SLA violation prediction at a multinational software company. Student: Eduardo Mazzuco.

Best Brazilian Production Engineering Masters Dissertation (Author)   *ABEPRO, 2018*
Title: Strategic Decision Making Under Deep Uncertainty in the 3D Printing Industry: A Robust Decision Making Analysis. (**full text**).

Best Brazilian Production Engineering Undergrad Dissertation (Author)   *ABEPRO, 2016*
Title: Problem Structuring Methods: A Review of Methods to address Complex Problems. (**full text**).

Inovapps 2015 Prize   *Brazilian Communications Ministry, 2015*
For proposing and developing the open-source Avalia Brasil Android App. Collaborators: Nataniel Schling and Klaus Klein. (**github repository**)

SOFTWARE

R6Sim: R6-based Simulation Modeling Toolkit   *RAND, 2024*
Provides an R6-based encapsulated object-oriented programming framework for simulation modeling studies in R.

optic: Simulation Tool for Causal Inference Using Longitudinal Data   *RAND, 2023*
The optic package allows statisticians to perform simulation studies evaluating candidate causal inference methods using their longitudinal data.

randcast.wtchp: Cost Forecasts for CDC's WTC Health Program   *RAND, 2021*
This package creates ensembles of forecasting models for CDC's World Trade Center Health Program.

crcrdm: Robust Decision Making Tools for Colorectal Cancer models   *RAND, 2021*
This package is a tool to facilitate the use of RDM methods with CRC models.

c19randepimod: RAND's COVID-19 Epidemiological Models   *RAND, 2020*
The c19randepimod package is the R package behind RAND's COVID-19 State Decision Support Tool.

gerbil: Generalized Efficient Regression-Based Imputation with Latent Processes   *RAND, 2021*
Michael Robbins' multiple imputation package.

famexplorer: A Visualization Tool for the FAM Microsimulation Model   *RAND, 2019*
A shiny app for the FAM microsimulation model.

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Society for Decision Making Under Deep Uncertainty (DMDU)

DMDU in Health Special Interest Group   *2024 - present*

Membership Chair   *2023 - present*

Communications and Outreach Chair   *2019 - 2020*

Member, Communications Team Volunteer   *2017 - 2018*

MIDAS Network

MIDAS Student Committee volunteer   *2020 - 2022*

NUGEEP - Rio Grande do Sul State Student Chapter - ABEPRO

President   *2015 - 2016*

TECHNICAL SKILLS

Programming	R (primary language); python and Julia (as needed).
High-Performance Computing	slurm, Swift/T, EMEWS with R
Web Apps Development	R's Shiny Package
Relational Databases	mySQL, MS SQL Server
Other Tools	Tableau, Wordpress, Git
Github profile	github.com/pedroliman
Personal website	www.pedrodelima.com