Nestor Guillen

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[Google Scholar link]

Appoinments

Texas State University
Associate Professor — 2022 - present
Assistant Professor — 2019 - 2022

University of Massachusetts at Amherst
Associate Professor (on leave) — 2019 - 2020
Assistant Professor — 2014 - 2019

University of California at Los Angeles
E.R. Hedrick Assistant Adjunct Professor — 2011 - 2014

Education

Ph.D. in Mathematics — December 2010
University of Texas at Austin. Advisor: Luis Caffarelli

Licenciado en Matemáticas — July 2006
Universidad Simón Bolívar (Sartenejas, Venezuela). Advisor: Lázaro Recht

Fellowships, grants and awards

NSF CAREER Grant DMS-2144232. Award: $\$498,969.00$ — 2022-present.
NSF Research Grant DMS-1700307. Award: $\$135,000.00$ — 2017-2020.
Visiting Researcher at the *Fields Institute* in Toronto, Canada. — Fall 2014.
NSF Research Grant DMS-1201413. Award: $\$102,000.00$ — 2012-2016.
Mathematical Sciences Research Institute, Postdoctoral fellow. — Spring 2011.
Lefevre Fellowship. — Spring 2009.
Frank Sid Richardson Foundation Regents Fellowship. — Spring 2007.

Editorial

Electronic Journal of Differential Equations — 2022-present

Doctoral students

René Cabrera (PhD 2022). — UT Austin (postdoc)
Michaael Boratko (PhD 2018, co-advised with Andrea Nahmod). — Google Deepmind

Selected publications

A complete list of preprints and journal articles can be found in my homepage www.ndguillen.com.

1. **The Landau equation does not blow up**, with L. Silvestre. Acta Mathematica (accepted for publication)
2. **A Convex Optimization Framework for Regularized Geodesic Distances**, with M. Edelstein, J. Solomon, and M. Ben-Chen. SIGRAPH Conference (2023).
3. **Pointwise estimates and regularity in geometric optics and other Generated Jacobian Equations**, with J. Kitagawa. Communications on Pure and Applied Mathematics (2017).
4. **Estimates for radial solutions of the homogeneous Landau equation with Coulomb potential**, with M. Gualdani. Analysis and PDE (2016).
5. **Aleksandrov-Bakelman-Pucci Type Estimates For Integro-Differential Equations**, with R. Schwab. Archive for Rational Mechanics and Analysis (2012).

Selected talks (2014-present)

- Convexity Seminar. Courant Institute, February 2025.
- Analysis Seminar. University of Pennsylvania, February 2025.
- Harmonic Analysis and PDE seminar. CUNY Graduate Center, September 2024.
- Colloquium. University of Texas at San Antonio, March 2024.
- Analysis Seminar. Courant Institute, March 2024.
- Colloquium. University of Arizona, February 2024.
- *ICERM workshop: Optimal Transport in Data Science*. May 2023.
- Partial Differential Equations Seminar. Arizona State University, February 2023.
- Analysis Seminar. UT Austin, January 2023.
- V Escuela sobre Análisis Funcional y Geometría, October 2022.
- *Midwest Geometry Conference*. Plenary speaker. Wichita State University. March 2022.
- *Congreso Latinoamericano de Matemáticos.* (Análisis Funcional y Geometría). September 2021.
- Online Analysis and PDE Seminar[1]. Universidad de Sevilla. March 2021.
- Applied Mathematics Seminar. Brown University. February 2019.
- Colloquium. Texas State University. January 2019.
- *Mathematical Congress of the Americas.* Session on Nonlocal variational problems. July 2017.
- Metric Geometry Group Seminar. Tufts University, May 2017.
- Analysis seminar. Massachusetts Institute of Technology, March 2017.
- Analysis Seminar. University of Chicago. October 2016.
- Geometric PDE. University of Wisconsin. March 2016, Madison.
- UCLA-Caltech Analysis Seminar. California Inst. of Technology, May 2015.
- PDE Seminar. Brown University, January 2015.

[1] https://sites.google.com/view/analysis-pde-seminar/main-page

Minicourses taught

- 1st San Marcos Winter School, Texas State University, January 2024.
- Minicourse on Stochastic Homogenization. 2016 Gene Golub Summer School, Philadelphia, July 2016.

Organization of scientific meetings and schools.

- AIM workshop on kinetic equations. Co-organized with Maria Gualdani, Russell Schwab, and Maja Taskovic. To take place April 2025.
- Texas State and UT Austin Summer School and Workshop on Algorithms and PDE. Co-organized with Maria Gualdani, May 2024.
- San Marcos Winter School, mini school held annually at Texas State since January 2024.
- Recent Progress in Kinetic and Integro-Differential Equations, November 2022, Banff International Research Station. Co-organized with Maria Gualdani, Russell Schwab, and Maja Taskovic.
- Workshop on Free Boundary Problems, May 2019, Columbia University. Co-organized with Daniela De Silva, Ovidiu Savin, and Hui Yu.
- Workshop on Nonlinear PDEs, December 2018, Columbia University. Co-organized with Daniela De Silva, Ovidiu Savin, and Hui Yu.
- Generated Jacobian Equations: from Geometric Optics to Economics, April 2017, Banff International Research Station. Co-organized with Jun Kitagawa and Robert McCann.
- Optimal Transport School, Lake Arrowhead (October 2013). Co-organized with Dima Shlyakhtenko and Christoph Thiele.
- SIAM Conference on Analysis of PDE 2011. *Non-local equations: perspectives from Probability and PDEs*. Co-organized with Russell Schwab.
- SIAM Conference on Analysis of PDE 2009. *Topics in fractional and geometric PDE*. Co-organized with Luis Caffarelli.

Selected Service

- (at Texas State) Head writer, proposal for a new mathematics PhD at Texas State. This proposal was submitted to the Texas Higher Education Coordinating Board and the new doctoral program has been approved with a start date of Fall 2025 This was a multiple year effort involving job market analysis, obtanining letters of support from academia and industry, and coordinating curriculum.
- (at Texas State) New PhD Proposal Committee, Chair.
- (at Texas State) Member of: Hiring Committee, Graduate Program Committe, the COVID 2019 pandemic Student Listening Committee, and Committee on Committees.
- (at UMass Amherst) Hiring Committe member (3 searches total between 2014 and 2019), Colloquium committee co-chair, Graduate admissions committee (3 years).
- Editor at the Electronic Journal of Differential Equations.