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Columbia University
Department of Mathematics
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Education

PhD Mathematics.

University of Texas at Austin, May 2013

Advisor: Luis Caffarelli

Master of Science

University of New Mexico, May 2008

Bachelor in Mathematics.

Universidad Simón Bolívar, May 2007

Research Interest

Elliptic and Parabolic Differential Equations.

Integro-differential Equations.

Free Boundary Problems.

Experience

Ritt Assistant Professor

Calculus I-II, Linear Algebra, Ordinary Differential Equations, Real Analysis, and Supervised Reading

Columbia University, Fall 2013 - present

Teaching Assistant, Research Assistant

Calculus I, Ordinary Differential Equations, and Graduate Real Analysis

University of Texas at Austin, Fall 2007 - Spring 2013

Teaching Assistant

NSF program: Mentoring through Critical Transition Points

University of New Mexico, Summer 2008

Teaching Assistant

Calculus I

University of New Mexico, Fall 2007 - Spring 2008

Teaching Assistant

Honors Calculus I-III, Linear Algebra, Real Analysis and Classical Mechanics

Universidad Simón Bolívar. Caracas, Venezuela. Fall 2003 - Summer 2007

Publications

1. H. A. Chang-Lara, G. Dávila. *Regularity for solutions of non local, non symmetric equations*. Ann. Inst. H. Poincaré Anal. Non Linéaire. 29(6):833-859, 2012.
2. H. A. Chang-Lara, G. Dávila. *Regularity theory for fully nonlinear integro-differential parabolic equations*. Calc. Var. Partial Differential Equations. 49(1-2):139-172, 2014.
3. H. A. Chang-Lara, G. Dávila. *Regularity for solutions of nonlocal parabolic equations II* J. Differential Equations. 256(1):130-156, 2014.
4. M. Allen, H. A. Chang-Lara *Free Boundaries on Two Dimensional Cones* J. of Geometric Analysis. pages 1-29, 2014.
5. F. Baccelli, H. A. Chang-Lara, S. Foss *Shape Theorems for Poisson Hail*. J. of Advances in Applied Probability. (Accepted).
6. H. A. Chang-Lara, G. Dávila. *Hölder estimates for non-local parabolic equations with critical drift*. J. Differential Equations. (Accepted).
7. H. A. Chang-Lara, G. Dávila. *$C^{\sigma+\alpha}$ estimates for concave, non-local parabolic equations with critical drift*. J. Integral Equations Appl. (Accepted).
8. H. A. Chang-Lara, D. Kriventsov *Further time regularity for fully non-linear parabolic equations*. Math. Research Letters. (Accepted).
9. H. A. Chang-Lara, D. Kriventsov *Further Time Regularity for Non-Local, Fully Non-Linear Parabolic Equations* Comm. Pure Appl. Math. (Accepted).

Preprints

1. H. A. Chang-Lara, N. Guillén *From the free boundary condition for Hele-Shaw to a fractional parabolic equation*. (Submitted).

Awards

1. *Frank Gerth III Graduate Excellence*. University of Texas at Austin, 2009.
2. *Silver Medal*. Iberoamerican Mathematical Olympiad for university students, 2002.
3. *Silver Medal*. Iberoamerican Mathematical Olympiad (high school). Uruguay, 2001.

Invited Talks

1. 11th AIMS Conference on Dynamical Systems Differential Equations and Applications, Orlando, July 2016.
2. 3rd Conference on Nonlocal Operators and Partial Differential Equations, Poland, June 2016.
3. Math Finance and Partial Differential Equations Conference, Rutgers University, November 2013.
4. 9th AIMS Conference on Dynamical Systems Differential Equations and Applications, Orlando, July 2012.
5. SIAM Conference on Analysis of Partial Differential Equations (PD11). San Diego, November 2011.
6. **Seminar talks:** University of Texas at Austin, Columbia University, Brown University, University of California Los Angeles, Massachusetts Institute of Technology, McGill University, Michigan State University, Princeton University, Purdue University, Rutgers University, Universidad Simón Bolívar.

Other activities

Organizer of the Geometry and Analysis Seminar.
Columbia University. Fall 2016.

Tutor for the Putnam Competition.
Columbia University. Fall 2015.

Organizer of the Junior Real Analysis Seminar.
University of Texas. Spring 2010.

Tutor for International Mathematical Competitions.
Caracas, Venezuela. 2003 to 2007.

1. Leader of the Venezuelan team at the VIII Central American and Caribbean Mathematical Olympiad. Panama 2006.
2. Leader of the Venezuelan team at the XX Iberoamerican Mathematical Olympiad. Colombia 2005.
3. Leader of the Venezuelan team at the VI Central American and Caribbean Mathematical Olympiad. Nicaragua 2004.

Personal Information

Born: April 10th, 1985

Citizenship: Venezuelan

Languages: Spanish (native), English (fluent), French (basic, 2 years of college).