Education

- Yale University, Mathematics, Ph.D. 1993. *Ph.D. Advisor: Peter W. Jones.*
- Yale University, Mathematics, MS. 1989.
- Universidad Central de Venezuela, Mathematics, B.S. 1987.

Employment/Temporary positions

- Interim Chair, Department of Mathematics and Statistics, UNM (2019-2020).
- Professor of Mathematics, University of New Mexico (2008-present).
- Visiting Fellow at Australian National University, Canberra and University of South Australia, Adelaide (February 2018).
- Visiting Academic at University of South Australia (UniSA), Adelaide, Australia (July 2011).
- Visiting Fellow at Australian National University, Canberra, Australia (July 2011).
- Visiting Fellow at the Instituto de Matemáticas de la Universidad de Sevilla (IMUS), Sevilla (Summer 2011).
- Associate Professor of Mathematics, University of New Mexico (2001-2008).
- Visiting Fellow at the Centre de Recerca Matemàtica, Barcelona, Spain (Fall 2003).
- Assistant Professor of Mathematics, University of New Mexico (1996-2001).
- Visiting Fellow at McQuary University, Sidney, Australia (Summer 1996).
- Member of the Institute for Advanced Study at Princeton (Winter-Spring 1994).
- Instructor, Department of Mathematics, Princeton University (1993-1996).
- Research/Teaching Assistant, Department of Mathematics, Yale University (1987-1993).

Professional Recognition, Honors, etc.

- Fall 2018 - Elected Member at Large of the AMS[1] Council (3 year term).
- 2016-17 Department Outstanding Professor (Student Nominations).
- Recipient of a **2012-2013 Outstanding Teacher of the Year Awards**.

Books published/Co-edited

1. M. C. Pereyra et al (eds.), *Harmonic Analysis, Partial Differential Equations, Complex Analysis, Banach Spaces, and Operator Theory (Volume 2). Celebrating Cora Sadosky's life.* Association for Women in Mathematics Series 5, Springer 2017.
2. M. C. Pereyra et al (eds.), *Harmonic Analysis, Partial Differential Equations, Complex Analysis, Banach Spaces, and Operator Theory (Volume 2). Celebrating Cora Sadosky's life.* Association for Women in Mathematics Series 4, Springer 2016.

[1] The American Mathematical Society.

3. M. C. Pereyra, L. A. Ward, *Harmonic Analysis: from Fourier to Wavelets.* Student Mathematical Library, 63. IAS/Park City Mathematical Subseries. American Math. Soc., Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ, 2012.

4. M. C. Pereyra, M. Mohlenkamp. *Wavelets, their friends, and what they can do for you,* European Math. Soc., Series of Lectures in Mathematics, 2008.

Selected Publications

1. Y. Han, L. Li, M. C. Pereyra, B. Wick, *A note on weak factorization of Meyer-type Hardy space via Cauchy operator.* To appear in Studia Math. Available at arXiv:1902.00839

2. M. C. Pereyra, *Dyadic harmonic analysis and weighted inequalities: the sparse revolution.* To appear in "New Trends in Applied Harmonic Analysis, Volume II: Harmonic Analysis, Geometric Measure Theory, and Applications", Birkhäuser book series "Applied and Numerical Harmonic Analysis", Carlos Cabrelli et al (eds.) Available at arXiv:1812.00850v1

3. O. Beznosova, D. Chung, J. C. Moraes, M. C. Pereyra, *Two weight norm inequalities for dyadic operators.* In "Harmonic Analysis, Partial Differential Equations, Complex Analysis, Banach Spaces, and Operator Theory (Volume 2)". Association for Women in Mathematics Series 5, Springer International Publishing Switzerland 2017. 135–169.

4. A. Kairema, J. Li, M. C. Pereyra, L. A. Ward, *Haar bases on quasi-metric measure spaces, and dyadic structure theorems for function spaces on product spaces of homogeneous type.* J. Func. Anal. 271(7), 1793–1843 (2016).

5. O. Beznosova, J. C. Moraes, M. C. Pereyra, *Sharp bounds for t-Haar multipliers in L^2.* In "Proceedings of the 9th International Conference on Harmonic Analysis and Partial Differential Equations". Edited by: José García-Cuerva et al. Contemporary Mathematics, Vol. 612 (2014) 45–64.

6. M. C. Pereyra, *Weighted inequalities and dyadic harmonic analysis.* Excursions in harmonic analysis. Volume 2, 281–306, Appl. Numer. Harmon. Anal., Birkhäuser/Springer, New York, 2013.

7. J. C. Moraes, M. C. Pereyra, *Weighted estimates for dyadic paraproducts and t-Haar multipliers with complexity* (m, n). Publ. Mat. **57** (2013), no. 2, 265–294.

8. D. Chung, M. C. Pereyra, C. Pérez, *Sharp bounds for general commutators on weighted Lebesgue spaces.* Trans. AMS **364** no. 3 (2012), 1163–1177.

9. M. C. Pereyra, *Haar multipliers meet Bellman functions.* Revista Matemática Iberoamericana 25 (2009), no. 3, 799–840.

10. O. Dragičević, L. Grafakos, M. C. Pereyra, S. Petermichl, *Extrapolation and sharp norm estimates for classical operators on weighted Lebesgue spaces.* Publ. Mat. 49 (2005), 73–91.

11. S. Efromovich, J. D. Lakey, M. C. Pereyra, N. Tymes, *Data-driven and optimal denoising of a signal and recovery of its derivative using multiwavelets.* IEEE Transactions on Signal Processing, vol 52, no. 3, p. 1–8 (2004).

12. J. D. Lakey, M. C. Pereyra, *On the non-existence of certain divergence-free multiwavelets.* In 'Wavelet and Signal Processing', Appl. Numer. Harmon. Anal. Birkhauser Boston, Boston, MA. L. Debnath, Ed. (2003).

13. M. C. Pereyra, *Lecture notes on dyadic harmonic analysis.* Contemporary Mathematics 289 AMS, Ch. I, p. 1-61 (2001).

14. J. D. Lakey, M. C. Pereyra, *Divergence-free multiwavelets on rectangular domains.* In "Wavelet Analysis and Multiresolution Methods", p. 203–240, Lecture Notes in Pure and Appl. Math. 212 , Dekker, NY, 2000.

15. M.C. Pereyra, A. Vargas, *A note on a maximal function over arbitrary sets of directions,* with Ana M. Vargas. Bull. London Math. Soc. 32 no. 1, p. 71-74 (2000).

16. N. H. Katz, M. C. Pereyra, *Haar multipliers, paraproducts, and weighted inequalities.* In "Analysis of Divergence", W. Bray, C. Stanojevic eds. Chapter 10, p. 145–170 (1999).

17. J. D. Lakey, P. R, Massopust, M. C. Pereyra, *Divergence-free multiwavelets.* Approximation Theory IX 2 p. 161–168, C. K. Chui and L. L. Schumaker, eds. Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN, 1998.

18. M. C. Pereyra, L. A. Ward, *Paraexponentials, Muckenhoupt weights, and dyadic paraproducts.* Proceedings of the AMS 126(01):135–144 (1998).

19. N. H. Katz, M. C. Pereyra, *On the two weight problem for the Hilbert transform.* Revista Matemática Iberoamericana 13(01):211–242 (1997).

20. M. C. Pereyra, *Sobolev spaces on Lipschitz curves.* Pacific Journal of Mathematics 172(2):553–589 (1996).

21. M. C. Pereyra, *On the resolvent of the dyadic paraproduct, and a non linear operation on RH_p weights.* Cont. Math. of AMS. 189(01):461-471 (1995).

Recent Invited/Plenary talks

- Plenary Speaker at "Harmonic Analysis Conference Celebrating the Mathematical Legacy of Alan McIntosh", at Australian National University, Canberra, Australia, February 12-16, 2018 (50min)

- Invited Speaker at a CIMPA 2017 Research School–IX Escuela Santaló in "Harmonic Analysis, Geometric Measure Theory and Applications". Three lectures Minicourse on *Dyadic harmonic Analysis and Weighted Inequalities*, at Universidad de Buenos Aires, Argentina, August 7-9, 2017 (4 hours).

- Invited Speaker at the Session on "Harmonic Analysis and Approximation Theory" in the 31st Brazilian Colloquium of Mathematics, IMPA, Rio de Janeiro, Brazil, July 30-August 5, 2017 (50min).

- Invited Speaker at conference on *Geometry, Analysis and Probability* in Seoul, South Korea, May 8-12, 2017 at the Korea Institute for Advanced Study (KIAS) (45min).

- Invited Speaker to the *Third Edition of the Workshop for Women in Analysis and PDEs*, AMS Special Session at the Central Sectional meeting #1123. In Minneapolis, the University of St. Thomas, October 28-30, 2016 (20min).

- Invited Speaker at the Special Session *Harmonic Analysis* at the International Workshop on Operator Theory and its Applications (IWOTA), St. Louis, MO, July 18-22, 2016 (20min).

- Invited Speaker at the Special Session in *Sharp estimates and Bellman functions in Harmonic Analysis* at the AMS Southeastern Sectional Meeting # 1117 at the University of Georgia in Athens, GA, March 5-6, 2016 (20min).

Recent Colloquium and seminar talks at other universities

- Analysis Seminar at Baylor University, Waco, TX (November 2018).

- Colloquium at Australian National University, Canberra (February 2018).

- Analysis Seminar at Georgia Tech, Atlanta, GA (November 2017).

- Seminar at Universidad de Colima, México (March 2017).

- Colloquium at Universidad de Colima, México (March 2017).

- Colloquium at University of Alabama, Tuscaloosa, AL (March 2016).

Grants

- *ICM 2018 Satellite Conference on Harmonic Analysis.* PI Pereyra, NSF, 2018-2019 (36K).
- *New Mexico Analysis Seminars 2014-2016.* PI Pereyra, CoPIs: Blair, Michalowski (NMSU), Skripka, Zinchenko, NSF 2014-16 (49K).
- *Attracting, Motivating and Preparing Mathematics students and educators in the Southwest by building an energetic community.* PI: Nitsche, CoPIs: Lorenz, Nakamaye, Pereyra, NSF-MCTP 2012-2017 (1.2M).
- *Attracting, Motivating and Preparing Mathematics students in the Southwest by building an energetic community.* PI Pereyra, CoPIs: Lorenz, Nakamaye, Nitsche, NSF-MCTP grant 2008-2012 (757K).
- *New Mexico Analysis Seminars 2001-2009.* PI Pereyra, CoPIs: Alvarez, Lakey, Sikora, Giorgi, Smits (all NMSU), NSF, 3 grants (about 61K total), 2001-09.

Doctoral Advisement

- David Weirich, PhD Mathematics (May 2018).
  PhD Thesis: *Weighted inequalities for dyadic operators over spaces of homogeneous type.*
  Data Scientist at Root Insurance Company, Aug 2017-now.
- Jean Moraes, PhD Mathematics (December 2011).
  PhD Thesis: *Weighted estimates for dyadic operators with complexity.*
  Assistant Professor at Univ. Federal de Rio Grande do Sud (2013-now). Granted Tenure in Fall 2015, Adjoint Professor I at Universidade Federal de Pelotas, Brasil (2012-2013).
- Daewon Chung, PhD Mathematics (July 2010).
  PhD Thesis: *Commutators and dyadic paraproducts on weighted Lebesgue spaces.*
  Assistant Professor at Keimyung University, Daegu, South Korea (2014-now). Postdoc at Inha University, Seoul, South Korea (2012-2014).
- Darek Panek, PhD Mathematics (July 2008).
  PhD Thesis: *On Sharp Extrapolation Theorems.*
  Temporary Faculty at University of Delaware (2016-now), Visiting Assistant Professor/Lecturer at Ohio University, Athens (2008-2016).
- Oleksandra Beznosova, PhD Mathematics (May 2008).
  PhD Thesis: *Bellman Functions, Paraproducts, Haar Multipliers and Weighted Inequalities.* Assistant Professor at University of Alabama, Birmingham (2014-now). Postdoc Baylor U. (2011-14), Postdoc at U. Missouri at Columbia (2008-11).

MS and Honor's Thesis supervision

- Sarah Mehraben, MS in Mathematics (Summer 2016).
- Nuriye Atasaver, MS in Mathematics (Fall 2014).
- Cullen Roth, Honors Thesis, Summa Cum Laude (Spring 2014).
- Cameron Lavigne, Honors Thesis, Summa Cum Laude (Fall 2013).
- Kourosh Raaen, MS in Mathematics (Summer 2008).
- Bernadette Mendoza-Spencer, MS in Mathematics (Spring 2006).

Minicourses taught

1. Four hour minicourse on *Dyadic harmonic Analysis and Weighted Inequalities*, in the CIMPA 2017 Research School–IX Escuela Santaló in "Harmonic Analysis, Geometric Measure Theory and Applications". at Universidad de Buenos Aires, Argentina, August 1-13, 2017.

2. Five hours on *Dyadic harmonic Analysis* as part of an interchange sponsored by CONAHEC[2] between UNM and Universidad de Colima, México, March 13-17, 2017.

3. Four seven-hour-sessions on *Fourier Analysis and Wavelets* at the NSF sponsored MCTP Summer Workshop, at the University of New Mexico, Albuquerque, NM, in 2008, 2009, 2010 and 2015. (For undergraduate students.)

4. Four one-hour-lectures on *Dyadic Harmonic Analysis and Weight Theory* at the Workshop for Women in Analysis and PDE, at the University of Minnesota and the Institute for Mathematics and its Applications, Mineapolis, MN, May 30 to June 2, 2012.

5. Seven one-hour-lectures on *Dyadic harmonic analysis and weighted inequalities.* At the Workshop on Harmonic Analysis, Metric Spaces and Applications to PDE, Instituto de Matemáticas de la Universidad de Sevilla (IMUS), Spain, Summer 2011.

6. Five Lectures on *From Fourier to Wavelets* at the III Panamerican Advanced Studies Institute in Computational Science and Engineering (PASI), Huajuapan de Leon, Oaxaca, México, July 16-21, 2006.

7. Five Lectures on *Harmonic Analysis: from Fourier to Haar* at the Program for Women in Mathematics, Institute for Advanced Studies IAS, Princeton, NJ, May 17-28, 2004 .

8. Five Lectures on *Wavelets: Theory and Applications* at the I Panamerican Advanced Studies Institute (PASI), Universidad Nacional de Córdoba, Argentina, June 2002.

9. Six lectures on *Singular Integrals and Haar Functions.* At the Summer School in Analysis, Instituto de Matemática, Unidad Cuernavaca, UNAM, México, June 2000.

Teaching at UNM

- I have taught from Calculus for STEM and for business to advanced graduate courses including: Math 162-163-264 (Calculus I-III), Math 180 (Calculus for biology), Math 306 (Euclidean Geometry), Math 311 (Vector Analysis), Math 313 (Complex Analysis), Math 321 (Linear Algebra), Math 327 (Discrete Structures), Math 401/501 (Advanced Calculus I), Math 402/502 (Advanced Calculus II), Math 472/572 (Fourier Analysis and Wavelets), Math 510 (Analysis I), Math 511 (Analysis I), Math 561 (Complex Analysis I), Math 563 (Measure Theory), Math 565 (Harmonic Analysis), Math 580 (Functional Analysis I), and Math 581 (Functional Analysis II).

- On average three courses per semester taught as overload from: Math 499, Math 599, Math 650, Math 669, Math 699.

- My average evaluation scores for the years 2010-14 IDEA B over 5 points: 4.8 (mean), years 2015-19 Evaluation Kit: Rate Teaching Effectiveness 4.76 (mean), 4.92 (median).

Professional Service

- National Science Foundation (NSF) Panel Member (2019, 2018, 2016, 2011).

- Member of the Committee on Meetings and Conferences of the American Mathematical Society (AMS) (2019-2022)

- Member at Large of the American Mathematical Society (AMS) Council (2019-2022).

[2]Consortium for North American Higher Education Collaboration.

- Member of the Committee on Students Chapters for the Association for Women in Mathematics (AWM) (2010-2013).

Administrative work on Department, College, University committees

- Department:
  - Interim Chair (2019-2020).
  - Chair of: Graduate Committee (2006-2009 and 2016-2017), Colloquium Committee (2019), Award Committee (2019).
  - Member: Tenure and Promotion Committee, Academic Progress Report committee (Spring 2017), Graduate Committee (multiple times), Executive Committee (2014-2016), Hiring Committee (multiple times), etc.
  - Member in many PhD Dissertation Committees in Mathematics.
- College of Arts and Sciences
  - Member, Senior A&S Promotion Committee (2013-2014, 2015-2016).
  - Member of the A&S Mid-probationary, Tenure and Promotion Committee (2009-2010)
- University Service
  - Member, Senate Graduate and Professional Committee (2015-2016, 2016-2017).
  - Member of the Prince of Asturias Endowed Chair Search Committee (Provost level Committee, 2013).
  - Member of a Hiring Committee for a position in ECE (Spring 2013).
  - Member of the Faculty Senate Scholarship Committee for (2012-2014).
  - Member of the Provost's Promotion and Tenure Committee (2011-2013).
  - Member in many PhD Dissertation Committees in ECE and CS.
  - Co-director UNM-PNM Statewide High-School Mathematics Contest (1999-2005).

Conference Organizing.

- ICM[3] 2018 Harmonic Analysis Satellite Conference. Porto Alegre, Brazil, July 2018.
- 15th New Mexico Analysis Seminar, at UNM, Albuquerque, NM, February 19-21, 2016.
- 14th New Mexico Analysis Seminar, at NMSU, Las Cruces, NM, March 26-28, 2015.
- 13th New Mexico Analysis Seminar, at UNM, Albuquerque, NM, April 3–4, 2014.
- *An Afternoon in Honor of Cora Sadosky*, at UNM, Albuquerque, NM, Friday April 4, 2014.
- 1st-12th New Mexico Analysis Seminar, alternating between UNM, Albuquerque and NMSU, Las Cruces (from 1998-2009).
- AMS Special Sessions in 1997, 2004, 2007, 2010, 2014.
- Departmental contact overseeing the AMS Fall Western Sectional Meeting #1000 held in Albuquerque on October 16-17, 2004 (while simultaneously organizing the 8th New Mexico Analysis Seminar with a two month old baby on tow.

[3]The International Congress of Mathematicians (ICM) is the largest conference for the topic of mathematics. It meets once every four years, hosted by the International Mathematical Union (IMU). The Fields Medals among others are awarded during the congress's opening ceremony.