Faculty Vitae

Name	Department	Date
María Cristina Pereyra	Mathematics and Statistics	November 14, 2011

Educational History

- **Ph.D.:** 1993, Yale University, New Haven, CT, Mathematics.
  Thesis Title: *Sobolev Spaces on Lipschitz Curves. Paraproducts, Inverses and some related operators.*
  Thesis Advisor: Peter W. Jones.
- **M.S.:** 1989, Yale University, New Haven, CT, Mathematics.
- **B.S** 1986, Universidad Central de Venezuela, Licenciado Summa Cum Laude en Matemáticas.

Employment History–principal positions since Bachelor's degree

- Full Professor, 2008–present, University of New Mexico, Albuquerque, NM.
- Associate Professor, 2001–2008, University of New Mexico, Albuquerque, NM.
- Assistant Professor, 1996–2001, University of New Mexico, Albuquerque, NM.
- Instructor, 1993–96, Princeton University, Princeton, NJ.
- Teaching Assistant, 1987–93, Yale University, New Haven, CT.

Employment History–concurrent temporary or visiting appointments

- Visiting Fellow, Aug-Sep 2011, University of Southern Australia, Adelaide and Australian National University, Camberra.
- Visiting Fellow at The Australian National University for the period 4-6 September, 2011.
- Visiting Fellow, Summer 2011, Instituto de Matemáticas de la Universidad de Sevilla.
- Visiting Fellow, Fall 2003, Centre de Recerca Matemática, Barcelona, Spain.
- Visiting Fellow, June 1–July 9, 1999, Centre de Recerca Matemática, Barcelona, Spain.
- Visiting Fellow, June 1997, University of Edinburgh, Scottland.
- Visiting Fellow, Summer 1996, Macquarie University at Sydney, Australia.
- Member, Jan-June 1994, Institute for Advanced Study, Princeton, NJ.
- Teaching Assistant, 1987–93, Yale University, New Haven, CT.

Awards and Honors

- Nominated for the The Project for New Mexico Graduates of Color (PNMGC) 2007-2008, 2008-2009, 2009-2010 and 2010-2011 Faculty of Color Awards.
- Department of Mathematics and Statistics
  Outstanding Graduate Chair (May 2009)
- Department of Mathematics and Statistics Outstanding Graduate Professor for academic year 2006-2007.
- Department of Mathematics and Statistics Outstanding Graduate Professor for academic year 2005-2006.
- Member of the Venezuelan team for the International Mathematics Olympiad: in 1981 at Washington, DC, USA; and in 1982 at Budapest, Hungary.

Scholarly achievements

Books Co-authored

1. Martin J. Mohlenkamp, María Cristina Pereyra, *Wavelets, their friends, and what they can do for you,* EMS Series of Lectures in Mathematics, European Mathematical Society Publishing House, ETH-Zentrum FLI C4, CH-8092 Zürich, Switzerland. 110 pages, 2008.
2. Lesley Ward, María Cristina Pereyra, *Harmonic Analysis: from Fourier to Wavelets,* **Book (430 pages).** To be published by the American Mathematical Society, in the Student Mathematical Library Series.

Articles in Refereed Journals

3. M. Cotlar, J. León, M. C. Pereyra. *Eigenfunction expansions of covariance kernels of Hilbert space processes.* Acta Cient. Venezolana 38 # 5-6, p. 563-569 (1987).
4. M. C. Pereyra. *On the resolvents of dyadic paraproducts.* Rev. Mat. Iberoamer. **10** # 3, p. 627-664 (1994).
5. M. C. Pereyra. *On the resolvent of the dyadic paraproduct, and a non linear operation on RH_p weights.* Contemp. Math. **189**, Amer. Math. Soc. p. 461-471 (1995).
6. M. C. Pereyra. *Sobolev spaces on Lipschitz curves.* Pacific J. Math. **172** # 2, p. 553-589 (1996).
7. N. Katz, M. C. Pereyra. *On the two weight problem for the Hilbert transform.* Rev. Mat. Iberoamer. **13** #1, p. 211-243 (1997).
8. M. C. Pereyra, L. Ward. *Paraexponentials, Muckenhoupt weights, and resolvents of paraproducts.* Proc. Amer. Math. Soc. **126** #1, p. 135-144 (1998).
9. J. D. Lakey, P. Massopust, M. C. Pereyra. *Divergence-free multiwavelets.* "Approximation theory IX. Computational aspects", C. K. Chui, L. L. Schumaker eds. Innov. Appl. Math., Vanderbilt University Press, Nashville, TN, **2**, p. 161-168 (1998) (refereed conference proceedings).
10. J. Lakey, M. C. Pereyra. *Multiwavelets on the interval and divergence-free wavelets.* In "Wavelet applications in signal and image processing VII", M. Unser, A. Aldroubi, A. Laine eds., Proc. SPIE **3813**, p. 162-173 (1999) (refereed conference proceedings).
11. M. C. Pereyra, A. M. Vargas. *A note on a maximal function over arbitrary sets of directions.* Bull. London Math. Soc. **32** # 1, p. 71-74 (2000).
12. S. Efromovich, N. Tymes, M. C. Pereyra. *The Application of Multiwavelets to Recovery of Signals.* Computing Science and Statistics, **33** (2000).
13. J. Lakey, S. Obeidat, M. C. Pereyra. *Multiwavelet characterization of function spaces adapted to the Navier-Stokes equations.* Proc. SPIE Vol. 4119, p. 372-383, Wavelet Applications in Signal and Image Processing VIII, Akram Aldroubi; Andrew F. Laine; Michael A. Unser; Eds (2000) (invited paper).

14. T. Berkopec, J. Lakey, M. C. Pereyra, N. Tymes Jr. *Multiwavelets and EP denoising.* Proc. SPIE Vol. 4478, p. 230-241, Wavelets: Applications in Signal and Image Processing IX, Andrew F. Laine; Michael A. Unser; Akram Aldroubi; Eds. (2001) (refereed conference proceedings).

15. Paul F. Hubbard, M. C. Pereyra, Kristin L. Umland, and Thomas P. Caudell. *Three -dimensional audio localization using wavelet-domain convolution,* Proc. SPIE Vol. 5207, p.271-279 Wavelets: Applications in Signal and Image Processing X, Michael A. Unser, Akram Aldroubi, Andrew F. Laine; Eds. (2003) (refereed conference proceedings).

16. S. Efromovich, J. Lakey, N. Tymes, M. C. Pereyra. *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).

17. Oliver Dragičević, Loukas Grafakos, M. C. Pereyra, and Stefanie Petermichl. *Extrapolation and sharp norm estimates for classical operators on weighted Lebesgue spaces.* Publ. Mat.**49** p.73-91 (2005).

18. M. C. Pereyra, *Haar multipliers meet Bellman functions.* Rev. Mat. Iberoamericana **25** (2009), no. 3, 799-840.

19. Daewon Chung, Carlos Perez, M. C. Pereyra, *Sharp bounds for general commutators on weighted Lebesgue spaces,* with Daewon Chung and Carlos Perez. To appear in Transactions of the American Mathematical Society.

Articles Appearing in Chapters in Edited Volumes (Peer Reviewed)

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

21. J. Lakey, M. C. Pereyra. *Divergence-free multiwavelets on rectangular domains.* Lecture Notes in Pure and Applied Mathematics Series **212**, "Wavelet Analysis and Multiresolution Methods", edited by Tian-Xiao He. Marcel Decker, Inc. Chapter 9, p. 203-240 (2000) (invited paper).

22. M. C. Pereyra. *Lecture Notes in Dyadic Harmonic Analysis.* In "Second Summer school in analysis and mathematical physics. Topics in analysis: harmonic, complex, nonlinear and quantization," Cuernavaca Morelos, Mexico, June 12-22, 2000. S. Pérez-Esteva, C.Villegas eds. Contemporary Mathematics **289** AMS, Ch. I, p. 1-61 (2001).

23. J. Lakey, M. C. Pereyra. *On the non-existence of certain divergence-free multi-wavelets.* In "Wavelet Transforms and Time-Frequency Signal Analysis", L. Debnath editor. Birkhauser Boston, Vol 2, Chapter 3, p. 41–54 (2003)(invited paper).

Works submitted for publication

24. Jean Carlo Moraes, M. C. Pereyra, *Weighted estimates for dyadic paraproducts and t-Haar multipliers with complexity* (m, n). Submitted.

25. M. C. Pereyra, *Weighted inequalities and dyadic harmonic analysis,* Invited paper for Proceedings of the FFTs (2006-2010), Springer-Birkhauser Applied and Numerical Harmonic Analysis (ANHA) book series. Submitted July 2011 (25pp).

Works in Progress

26. M. C. Pereyra, C. Pérez, *Classical and dyadic harmonic analysis.* Lectures notes from the DOC-Course at the Instituto de Matemáticas de la Universidad de Sevilla held in Sevilla, Spain, from May 15 until July 15, 2011.

Other Writings

- **Lecture Notes**
  - *Wavelets, their friends, and what they can do for you,* with Martin Mohlenkamp. Fifty one pages lecture notes used for the short course *From Fourier to Wavelets* at the III Panamerican Advanced Studies Institute in Computational Science and Engineering (PASI III), held at the Universidad Tecnológica de la Mixteca, Huajuapan de León, Oaxaca, México (July 16-21, 2006). This was a revised version of the lecture notes used for the short course *Wavelets and Partial Differential Equations* at the II Panamerican Advanced Studies Institute (PASI II) held at Universidad Autonoma de Honduras, Tegucigalpa, Honduras (June 2004).
  - *Harmonic Analysis: from Fourier to Haar,* with Lesley Ward. Seventy pages lecture notes delivered at the Program for Women in Mathematics held at the Institute for Advanced Studies, Princeton (May 2004).
  - *Lecture notes on wavelets: theory and applications.* Sixty pages lecture notes delivered at the I Panamerican Advanced Studies Institute, held at FAMAF, Facultad de Matemática, Astronomía y Física Universidad Nacional de Córdoba, Córdoba, Argentina (June-July 2002).
- *UNM/PNM Statewide Mathematics Contest*: First and Second Round exams for six years of the Math Contest corresponding to the academic years 1999/00, 2000/01, 2001/02, 2002/03, 2004/05, and 2005/06. Corresponding First and Second Round Solutions (an average of 15 pages per solution set).
- *Parental Leave for Graduate Students.* Document produced in Fall 2007.
- E. Gavosto, A. Nahmod, G. Ponce, M. C. Pereyra, R. Torres, W. Urbina, *Remembering Cora Sadosky*, Association for Women in Mathematics AWM Newsletter, **41**, no. 2, March/April 2011, p. 10–14.

Invited or Refereed Abstracts at Professional Meetings

- *Sharp weighted inequalities for commutators.* Daewon Chung, M. C. Pereyra (speaker), Carlos Pérez.
  AMS Fall Western Sectional Meeting #1063, UCLA, Los Angeles, CA, October 9-10, 2010. Special Session in *Harmonic Analysis*.
- *Towards sharp bound for the commutator on weighted Lebesgue spaces.* Daewon Chung, M. C. Pereyra (speaker).
  AMS Fall Southeastern Meeting 1053, October 30-November 1, 2009, at Florida Atlantic University in Boca Raton FL. Special Session in *Harmonic Analysis*.
- *Bounds on the norm of the dyadic paraproduct on weighted Lebesgue spaces.* Oleksandra Beznosova (speaker), M. C. Pereyra.
  AMS Meeting # 1032, Albuquerque, NM (Oct 2007). Special Session on Harmonic Analysis and Operator Theory.
- *Sharp Extrapolation Theorems.* M. C. Pereyra.
  VII Joint Meeting AMS-SMM (American Mathematical Society and Sociedad Matemática Mexicana), Zacatecas, México (May 2007). Special Session on Functional and Harmonic Analysis.
- *Haar multipliers revisited.* M. C. Pereyra.
  AMS Meeting # 982, Orlando, Florida (Nov 2002). Special Session on function Spaces, Singular Integrals and Applications to PDEs.
- *Multiwavelets on the interval and divergence-free wavelets on a rectangle.* J. Lakey, M. C. Pereyra (speaker).
  AMS Meeting # 948, University of Texas, Austin (Oct 1999). Special Session on Wavelets and Approximation Theory.
- *Divergence-free multiwavelets.* J. Lakey, M. C. Pereyra (speaker).
  VII Joint Meeting AMS-SMM (American Mathematical Society and Sociedad Matemática Mexicana), Denton, Texas (May 1999). Special Session on Functional Analysis and its Applications.

- *On multiwavelets on the interval.* J. Lakey (speaker), M. C. Pereyra.
  AMS Meeting # 941, University of Illinois, Urbana, IL: Special Session on Wavelet Analysis and Multiresolution Methods, II (March 1999). Special Session on Wavelets Analysis and Multiresolution Methods.

- *On the two-weights problem for the Hilbert transform.* M. C. Pereyra.
  AMS Meeting # 926. Georgia Institute of Technology, Atlanta, Georgia (Oct 1997). Special Session on Harmonic Analysis and its Applications.

- *Paraexponentials, Muckenhoupt weights, and resolvents of dyadic paraproducts.*
  M. C. Pereyra, L. Ward (speaker).
  AMS Meeting # 915, Chattanooga, Tennessee (Oct 1996). Special Session on Conformal Analysis.

- *Haar multiplers.* M. C. Pereyra.
  AMS Meeting # 904, Kent, Ohio (Nov 1995). Special Session on Harmonic Analysis and Applications.

Invited and Contributed Oral Presentations at Professional Meetings

- Invited Speaker at the *9th international Conference on Harmonic Analysis and Partial Differential Equations*, to be held June 11-15, 2012, El Escorial, Spain. The conference consists of four short courses (three hours each) and a limited number of 45 minutes lectures delivered by invited speakers.

- Invited Speaker at the Special Session in *Harmonic Analysis and Applications* at the AMS Spring Central Sectional Meeting #1081, to be held at Lawrence, KS March 30-April 1, 2012.

- Invited participant in the American Institute of Mathematics ARCC Workshop on *Weighted singular integral operators and non-homogeneous harmonic analysis* to be held at the AIM, Palo Alto, CA on October 10-14, 2011.

- Plenary Speaker at the *Ohio River Analysis meeting*, held in Cincinati, OH, January 29-30, 2011.

- Invited Speaker at the Special Session in *Harmonic Analysis* at the AMS Fall Western Sectional Meeting #1063, held at UCLA, Los Angeles, CA, October 9-10, 2010.

- Invited Speaker at the Special Session in *Harmonic Analysis* at the AMS Fall Eastern Sectional Meeting #1062, held at Syracuse University, Syracuse, NY, October 2-3, 2010. (Had to cancel day before travel since mother broke her elbow, spent the weekeend at Pressbiterian Hospital instead).

- Invited Speaker to the ICM (International Congress of Mathematicians) Satellite Conference in Harmonic Analysis held in NISER, Bhubaneswar, India in August 29 September 2, 2010 (could not attend for personal reasons).

- Invited Speaker at the *2010 February Fourier Talks (FFT) at the Norbert Wiener Center*, February 18-19, 2010 at the University of Maryland, College Park.

- Invited Speaker at the Special Session in *Harmonic Analysis* at the AMS Fall Southeastern Meeting, October 30-November 1, 2009, at Florida Atlantic University in Boca Raton FL.

- Invited Speaker at the Special Session in *Harmonic and Functional Analysis* in the joint AMS-SMM in Zacatecas, México (May 2007).

- Contributed talk at the *Sixth Prairie Seminar*, held at University of Kansas, Lawrense, Kansas (October 2006).

- Invited Speaker at *VI Panamerican Workshop in Applied and Computational Mathematics* held at Universidad del Mar, Huatulco, Oaxaca, México (July 23-28, 2006).

- Invited Speaker at *ShowMe Analysis Meeting* 2004 held at University of Missouri-Columbia, Columbia, Missouri (June 3-5, 2004) (couldn't attend due to advanced pregnancy).

- Workshop on *Harmonic Analysis and Partial Differential Equations*, Puerto Vallarta, México (Jun 23-27, 2003).

- Special Session on *Function Spaces, Singular Integrals and Applications to PDEs* at the AMS Southeastern Section Meeting in Orlando, FL (Nov 2002).
- *Wavelets: Applications in Signal and Image Processing*, in the SPIE's 46th Annual Meeting, San Diego, CA (July 2001).
- *Third New Mexico Analysis Seminar*, NMSU, Las Cruces, NM (Feb 2000).
- AMS Meeting # 948, Austin, TX: *Special Session on Wavelets and Approximation Theory* (Oct 1999).
- IV Joint Meeting American Mathematical Society-Sociedad Matemática Mexicana (AMS-SMM), Denton, TX: Special Session on *Wavelets* (May 1999).
- NSF-CBMS Regional Research Conferense on *Wavelet Analysis as a tool for computational and Harmonic Analysis*, Orlando, FL (May 1998).
- *First New Mexico Analysis Seminar*, NMSU, Las Cruces, NM (Feb 1998).
- AMS Regional Meeting # 926, Atlanta, GA: *Special Session on Harmonic Analysis* (Oct 1997).
- *7th International Workshop on Analysis and its Applications*, Maine (Jun 1997).
- AMS Regional Meeting, Kent, OH: *Special Session on Harmonic Analysis and PDE's* (Nov 1995).
- *Conference in honor to Mischa Cotlar*, Caracas, Venezuela (Jan 1994).
- *Conference in honor to Guido Weiss.* Universidad Autónoma de Madrid, Spain (May 1993).

Other Talks

- **Colloquia:** University of Southern Australia, Adelaide, Australia (Fall 2011), University of Texas at El Paso, TX (Fall 2009), McGill University joint Concordia University, Montreal, Canada (Nov 2007); New Mexico State University, Las Cruces, NM (Sep 2007); Universidad Central de Venezuela (March 2004); Universidad de Sevilla, Spain (Dec 2003); Instituto de Matemáticas, UNAM, Mexico City, México (Mar 2000); Instituto de Matemáticas, UNAM, Unidad Cuernavaca, México (Mar 2000); New Mexico State University, Las Cruces, NM (Feb 1997); MacQuarie University, Sydney, Australia (Aug 1996); University of New Mexico, Albuquerque, NM (Apr 1996); University of Colorado at Colorado Springs, CO (Mar 1996); Yale University, New Haven, CT (Jan 1996); Temple University, Philadelphia, PA (Nov 1995); Lehigh University, PA (May 1994); Wright University, Dayton, OH (Apr 1993).
- **Analysis Seminars:** Australian National University, Canberra, Australia (September 2011), Universidad Autónoma de Madrid, Spain (July 2011), University of New Mexico, Albuquerque, NM (twice Spring 2011), University of Missouri at Columbia, MO (Spring 2011), University of New Mexico, Albuquerque, NM (5 talks in two different seminars, Spring 2006) University of New Mexico, Albuquerque, NM (3 talks, Fall 2005); Institute for Advanced Studies, Princeton, NJ (May 2004); Universidad Autonoma de Madrid, Spain (Dec 2003); Universidad de Valencia, Spain (Dec 2003); Joint Universidad Central de Barcelona, Universidad Autónoma de Barcelona and Centre de Recerca Matemática, Spain (Nov 2003); University of California at Los Angeles (May 2003); University of New Mexico, Albuquerque, NM (4 talks, Fall 2002); Instituto de Matemáticas, UNAM, Ciudad de Mexico (March 2000); University of New Mexico, Albuquerque, NM (Feb 2000); Universitat Autònoma de Barcelona, Spain (Jun 1999); Universidad Autónoma de Madrid, Spain (Jun 1999); University of Missouri at Columbia, MI (Apr 1999); Universidad Central de Venezuela, Caracas, VZLA (Jan 91, Jan 92, Jul 95, Jan 96, Jan 97, Jan 98); University of Edinburgh, Scotland (Jun 1997); University of New Mexico, Albuquerque, NM (Nov 96, Dec 96, Apr 97, May 97); Rice University, Houston, TX (Oct 1996); MacQuarie University, Sydney, Australia (Jul 1996); New South Wales University, Sydney, Australia (Jul 1996); Universitat Central de Barcelona, Spain (Jun 1996); CUNY, New York City, NY (Oct 1995); Brown University, Providence, RI (Sep 1995); University of Colorado at Boulder, CO (Jul 1995); UCLA, Los Angeles, CA (Jun 1995); Princeton University, Princeton, NJ (Oct 1993); University of Texas at Austin, TX (March 1993); Yale University, New Haven, CT (Nov 1992).

- **Other:** Graduate Colloquium at University of New Mexico, Albuquerque, NM (August 2006); Sandia National Labs, Albuquerque, NM (June 1998); Public Lecture at UNM, joint with Prof. Efromovich and Prof. Wofsy as part of the Mathematics Awareness Week, (Apr 1998); Graduate Seminar, UNM, Albuquerque, NM (Feb 1998).

Funding

Proposals Funded or Pending

- **Pending DMS MPS/DMS - Workforce in the Mathematical Sciences- MCTP**
  - Title: *Attracting, Motivating and Preparing Mathematics students and educators in the Southwest by building an energetic community.*
  - **Co-P.I.** M. C. Pereyra, **Co-P.I.** Jens Lorenz, **Co-P.I.** Michael Nakamaye, **P.I.** Monika Nitsche.
  - Starting: 05/01/2012. Ending: 04/30/2016.
  - PP Total costs - $1,635,425
- **Awarded Fall 2011.** Full travel support to participate in the American Institute of Mathematics ARCC Workshop on *Weighted singular integral operators and non-homogeneous harmonic analysis* to be held at the AIM, Palo Alto, CA on October 10-14, 2011 (airfare, lodging, perdiem).
- **Awarded Spring 2011.** Travel support from Spanish government to participate in a two month long workshop on Harmonic Analysis, Metric Spaces and Applications to P.D.E. organized by the Instituto de Matemticas de la Universidad de Sevilla (IMUS), Sevilla, May 15th - July 15th, 2011. (1,200Euros for travel and 1,925Euros for expenses).
- **Awarded Spring 2009.** College of Arts and Sciences Faculty Development Fund and Provost Office Funds to support in the amount of $2,500 towards the *12th New Mexico Analysis Seminar* ($1,250 from A&S, and $1,250 from the Provost's Office), held at UNM on April 17-18, 2009.
- **Awarded NSF EMSW21-MCTP Grant #0739417**
  - Title: *EMSW21-MCTP Attracting, Motivating and Preparing Mathematics students in the Southwest by building an energetic community.*
  - **P.I.** M. C. Pereyra, **Co-P.I.s** Jens Lorenz, Michael Nakamaye, Monika Nitsche.
  - Starting: 06/15/2008. Ending: 05/31/2012.
  - PP Total costs - $757,346.00
- **Awarded August 2007:** College of Arts and Sciences Faculty Development Fund support in the amount of $2,500 towards the 10th New Mexico Analysis Seminar and *An afternoon in Honor to Mischa Cotlar* held at UNM on October 11-12, 2007.
- **Awarded NSF Grant #DMS-0713888**
  - Title: *New Mexico Analysis Seminars.*
  - **P.I.** M. C. Pereyra, **Co-P.I.s** Tiziana Giorgi (NMSU), J. Lakey (NMSU), Adam Sikora (NMSU), Bob Smits (NMSU).
  - Starting: 09/01/2007. Ending: 08/31/2010.
  - PP Total costs - $25,000.
- **Awarded NSF-CBMS Grant # 0440945**
  - Title: *NSF/CBMS Regional Conference in the Mathematical Sciences,* Nonlinear dispersive and wave equations..
  - **P.I.** J. Lakey (NMSU), **Co-P.I.s** Tiziana Giorgi (NMSU), M. C. Pereyra (UNM), Adam Sikora (NMSU), Bob Smits (NMSU).

  - Starting: 05/01/05. Ending: 04/31/06.
  - PP Total costs - Awd: $31,329.00

- **Awarded NSF Grant #DMS-0431484**
  - Title: *New Mexico Analysis Seminars.*
  - **P.I.** M. C. Pereyra, **Co-P.I.s** Tiziana Giorgi (NMSU), J. Lakey (NMSU), Adam Sikora (NMSU), Bob Smits (NMSU).
  - Starting: 05/01/04. Ending: 04/29/06.
  - PP Total costs - Awd: $15,000.

- **Visitor at CRM:** Local expenses were partially supported by the Centre de Recerca Matematica in Barcelona (Fall 2003).

- **Domestic Travel Grant AWM/NSF:** To participate in the IAS/Park City Mathematics Institute held in Park City, Utah. Grant amount: $1,000 (July 2003).

- **Awarded NSF Grant # 0086986**
  - **Title:** New Mexico Analysis Seminars.
  - **P.I.** María Cristina Pereyra. **Co-P.I.s** Joseph Lakey (NMSU); Josefina Alvarez (NMSU).
  - **Starting:** 01/15/01. **Ending:** 01/15/04.
  - PP Total costs - Awd: $20,941.00

- **AWM-NSF International Travel Grant:** To attend Spring School in Analysis on "Recent Techniques in Harmonic Analysis", Paseky, Czech Republic, May 28-June 3, 2000.
  Amount funded: $1,800.00.

- **SURP Grant # AX-6430, renewal**
  - **Title:** Divergence free multiwavelets in Navier-Stokes systems.
  - **P.I.** M. C. Pereyra, **Co-P.I.** J. Lakey (NMSU).
  - **Funded by:** Sandia National Laboratories.
  - **Starting:** 10/1/98. **Ending:** 9/30/99.
  - PP Total Costs - Awd: $ 35,000.00

- **SURP Grant # AX-6430**
  - **Title:** Divergence free multiwavelets in Navier-Stokes systems.
  - **P.I.** María Cristina Pereyra, **Co-P.I.** Joseph Lakey (NMSU).
  - **Funded by:** Sandia National Laboratories.
  - **Starting:** 10/1/97. **Ending:** 9/30/98.
  - PP Total Costs - Awd: $ 35,000.00

- **EPSRC Visiting Fellowship # GR/160661:** Travel Grant to visit the University of Edinburgh, Scottland (June 1997).

Teaching

Doctoral Advisement at UNM

- **Jean Moraes** (PhD December 2011).
  Dissertation: *Weighted estimates for dyadic operators with complexity.*
  One paper submitted.

- **Dae-Won Chung**, (PhD Summer 2010).
  Title: *Commutators and dyadic paraproducts on weighted Lebesgue spaces.*
  Postdoc Fellow at University of New Mexico (2010-2011), currently Adjunct Lecturer (2011-2012). One paper based on the thesis has been accepted for publication at Indiana U. Math. J. and another one has already been published, *Weighted inequalities for multivariable dyadic paraproducts* Pub. Mat. Volume 55, Issue 2 (2011) 475–499.

- **Oleksandra Beznosova** (PhD May 2008)
  Dissertation: *Bellman functions, Paraproducts, Haar Multipliers and Weighted Inequalities.*
  Currently Postdoc at University of Missouri, Columbia.

- **Dariuz Panek** (PhD December 2008)
  Dissertation: *On Sharp Extrapolation Theorems.*
  Currently Visiting Assistant Professor at University of Ohio, Athens.

Masters Advisement at UNM

- **Mehrzad Malmirchegini** (expected MS Fall 2012, he is a PhD ECE student)

- **Bernadette Mendoza-Spencer** (MS May 2006)
  Thesis: *The continuous and discrete Hilbert transform.* Co-advised with P. Embid.

- **Kourosh Raeen** (MS Summer 2008)
  Thesis: *Gibbs' Phenomenon in Wavelets and Fourier Analysis.*

Teaching at UNM

- **Classroom Teaching:**
  - 2012, Spring, MATH 401/501: Advanced Calculus I.
  - 2012, Spring, MATH 306/506: College Geometry.
  - 2011, Fall, MATH 650: Reading and Research on Fourier Analysis and Wavelets; 2 students.
  - 2011, Spring, MATH 650: Reading and Research on Fourier Analysis and Wavelets; 2 students.
  - Sabbatical leave (Fall and Spring 2011).
  - 2010, Fall, MATH 401/501: Advanced Calculus I; IDEA B 4.8/4.9
  - 2010, Fall, MATH 563: Measure Theory; IDEA B 4.9/4.6
  - 2010, Spring, MATH 321: Linear Algebra; IDEA B 4.5/4.4
  - 2010, Spring, MATH 511: Real Analysis II; IDEA B 4.8/4.6
  - 2009, Fall, MATH 510: Real Analysis I; IDEA B 4.8/4.6
  - 2009, Fall, MATH 472/572: Fourier Analysis and Wavelets; IDEA B 5.0/5.0, 4.8/4.9
  - 2009, Spring, MATH 401/501: Advanced Calculus I; IDEA B 5.0/5.0
  - 2008, Fall, Math 605: Teaching Seminar and Graduate Colloquium; 15 students.
  - 2008, Fall, Math 327: Discrete Mathematical Structures; 21 students; 3.6/3.4
  - 2008, Fall, Math 180: Calculus I for Biology and BA/MD; 36 students; IDEA B 3.8/3.7
  - 2008, Spring, Math 565: Harmonic Analysis, 9 students; ICES med 5.7.

- 2007, Fall, Math 472/572: Fourier Analysis and Wavelets; 13 students; ICES med 6.0.
- 2007, Fall, Math 563: Measure Theory; 12 students; ICES med 5.7.
- 2007, Spring, Math 402/502: Advanced Calculus II; 14 students; ICES med 5.7/6.0
- 2006, Fall, Math 401/501: Advanced Calculus I; 37 students; ICES med 5.6.
- 2006, Fall, Math 563: Measure Theory; 9 students; ICES med 6.0.
- 2006, Spring, Math 511: Real Analysis II; 11 students; ICES med 5.5.
- 2005, Fall, Math Math 510: Real Analysis I; 16 students; ICES med 5.6.
- 2005, Fall, Math 311: Vector Calculus; 19 students; ICES med 5.0.
- 2005, Spring, Math 565: Harmonic Analysis, 6 students; ICES med 5.6.
- 2004, Fall, Maternity leave.
- 2004, Spring, Sabatical leave.
- 2003, Fall, Sabatical leave.
- 2003, Spring, Math 562: Complex Analysis II; 7 students; ICES med 5.5.
- 2002, Fall, Math 561: Complex Analysis I; 13 students; ICES med 5.5,
- 2002, Fall, Math 163: Calculus II; 31 students; ICES med 5.3.
- 2002, Spring, Math 362/551/579: Advanced Calulus II; 12 students; ICES med 5.5.
- 2001, Fall, Math 361/461: Advanced Calulus I; 26 students ICES med 5.5/5.6.
- 2001, Fall, Math 472/572: Fourier Analysis and Wavelets; 11 students; ICES med 6.0.
- 2001, Spring, Maternity leave.
- 2000, Fall, Math 264: Calculus III; 62 students; ICES med 5.2.
- 2000, Spring, Math 163: Calculus II; 24 students; ICES med 5.5.
- 1999, Fall, Math 162: Calculus I; 44 students; ICES med 5.1.
- 1999, Fall, Math 563: Measure Theory; 8 students; ICES med 5.5.
- 1999, Spring, Math 582: Functional Analysis II; 7 students; ICES med 5.7.
- 1999, Spring, Math 163: Calculus II; 35 students; ICES med 5.6.
- 1998, Fall, Math 581: Functional Analysis I; 14 students; ICES med 5.7.
- 1998, Fall, Math 579/436: Introduction to wavelets; 13 students; ICES med 5.5.
- 1998, Spring, Math 162: Calculus I; 45 students; ICES med 5.5.
- 1998, Spring, Math 565: Introduction to Harmonic Analysis; 5 students; ICES med 6.0.
- 1997, Fall, Math 180: Elements of Calculus; 60 students; ICES med 5.0.
- 1997, Fall, Math 579/436: Introduction to Wavelets; 7 students (at Los Alamos Campus); ICES med 5.3.
- 1997, Fall, Math 679: Seminar in Applied Mathematics; 4 students;.
- 1997, Spring, Math 579/436: Wavelets and Fourier Analysis, 16 students; ICES med 5.6.
- 1997, Spring, Math 461/361: Advanced calculus; 22 students; ICES med 5.6.
- 1996, Fall, Math 327: Discrete Mathematical Structures; 25 students; ICES med 5.0.
- 1996, Fall, Math 163: Calculus II; 40 students; ICES med 5.2.

- **Math 650 - Reading and Research:** I have done this since Fall 1997, almost every semester (except perhaps when on sabatical or maternity leave) for at least one graduate student per semester.

- **Math 499 - Undergraduate Individual Study:**
  - Mathew A. Buicam (Spring 2000),
  - Elena A. Pliss (EECE, Summer 2002 - Wavelets),

- Jason Brown and Bob Cordwel (Fall 2002, Math 431 - topology).

- **PhD Dissertation Committees:**
  - Jean Moraes, PhD Mathematics (Fall 2011) (Chair),
  - Jason Terry (comprehensives Spring 2011),
  - Yan Qiu (Sindy), PhD Mathematics (Summer 2010),
  - Dae-Won Chung, PhD Mathematics (Summer 2010) (Chair),
  - Thakshila Wimalajeewa Wewelwala-Hewage, PhD ECE (Fall 2009),
  - Pavlo Cherepanov, PhD Mathematics (Spring 2009),
  - Adam Ringler, PhD in Mathematics (Fall 2008),
  - Darek Panek, PhD in Mathematics (Chair, August 2008),
  - Jessica Deshler, PhD in Math Education (Summer 2008),
  - Oksana Guba, PhD in Mathematics (Spring 2008),
  - Oleksandra Beznosoba, PhD in Mathematics (Chair, Spring 2008),
  - Zhaoxian Zhou, PhD in Engineering (Spring 2005),
  - Juan Gaspar Vargas-Rubio, PhD in Engineering (Summer 2004),
  - Nate Tymes, PhD in Statistics (Spring 2002),
  - Lyudmilla Sakhanenko, PhD in Statistics (Spring 2002),
  - Dmitriy Panchenko, PhD in Mathematics (Spring 2002),
  - Martha Monteiro, PhD in Mathematics (Aug 2000).

- **MS Thesis Committees:**
  - Joseph Allen, MS in Mathematics (Fall 2010),
  - Petersen Moyo, MS in Mathematics (Spring 2009),
  - Kourosh Raeen, MS in Mathematics (Chair, Summer 2008),
  - Daishu Komagata, MS in Applied Mathematics (Summer 2007),
  - Christin Gunning, MS in Applied Mathematics (Summer 2007),
  - Pablo Delgado, MS in Math Education (Spring 2007),
  - Lakshmikanth Reddy Sripuram, MS in ECE (Spring 2007),
  - David Worth, MS in Mathematics (Fall 2006),
  - Bernadette Mendoza-Spencer, MS in Mathematics (Chair, Spring 2006),
  - Bobbi Page, MS in Mathematics (Spring 2006),
  - Vibhor Gautam, MS in Mathematics (Summer 2005).

- **Postdoctoral Advising:**
  - Dae-Won Chung (Postdoctoral Fellow at UNM 2010-11, PTI at UNM 2011-12). During his postdoctoral year with us Dae-Won has had two papers accepted for publication, at Trans. AMS, and Indiana U. Math. J. and one other paper has been already published Publications Mat. Vol. 55, Issue 2, 2011, pp. 475-499.

Other Teaching

- **New Mexico Math Contest:** In the Fall 1999, I accepted the challenge of creating and grading the problems for the *New Mexico Math Contest*, a High School competition that the Department of Mathematics and Statistics has sponsored for 41 years. I inherited the New Mexico Math Contest from Prof. Hahn who retired after 10 years of being solely responsible of creating and grading beautiful problems for the contest. It was a big challenge to keep up to the standards laid down by Prof. Hahn, and I believe I did not dissapoint him. I was in charge until Spring 2006, except for the year 2003-2004, when I went on sabatical and my colleague Michael Nakamaye took over. I stepped down when, in 2006, I became Chair of the Graduate Committee in the Department, but made sure the contest remained in capable hands.

  The contest in the first round gathers around 1400 participants from all over New Mexico, 250 students are invited for the second round, and after a lengthy and careful grading of their papers winners are selected from 8th grade up to 12th grade. I believe this is one way we can help improve the mathematics education in New Mexico. We are trying to encourage all schools to create Math Clubs, and to become enthusiastic about mathematics. The Math Contest seems to be a good vehicle to channel some of that enthusiasm. See attached documentation: exams, solutions, list of winners, etc. More information about the Contest can be accessed at: http://www.math.unm.edu/math_contest/contest.html

- **Minicourses Taught:** Since 2000, I have taught a week-long minicourse every other year, in different countries.

  1. Seven one-hour-lectures minicourse on *Dyadic harmonic analysis and weighted inequalities*, as part of a two month long Workshop on Harmonic Analysis, Metric Spaces and Applications to P.D.E. organized by the Instituto de Matemticas de la Universidad de Sevilla (IMUS), Sevilla, Spain (May 15th - July 15th, 2011).
  2. Four seven-hour-sessions on *Fourier Analysis and Wavelets* at the NSF sponsored MCTP Summer 2010 Workshop, at the University of New Mexico, Albuquerque, NM (June 4-8, 2010).
  3. Five six-hour-sessions (one day just half) on *Fourier Analysis and Wavelets* at the NSF sponsored MCTP Summer 2009 Workshop, at the University of New Mexico, Albuquerque, NM (June 7-11, 2009).
  4. Five six hour sessions on: *Fourier Analysis and Wavelets* at the NSF sponsored MCTP 2008 Summer Program held at the University of New Mexico, Albuquerque, NM (July 7-August 8, 2008).
  5. Five two hour lectures on: *From Fourier to Wavelets* at the III Panamerican Advanced Studies Institute in Computational Science and Engineering (PASI), held at the Universidad Tecnológica de la Mixteca, Huajuapan de León, Oaxaca, México (July 16-21, 2006).
  6. Five lectures on: *Harmonic Analysis: from Fourier to Haar,* at the Program for Women in Mathematics: Analysis and PDE's, at the Institute for Advanced Studies in Princeton, NJ (May 17-28, 2004).
  7. Five lectures on *Wavelets: Theory and applications* at I Panamerican Advanced Studies Institute, held at FAMAF, Facultad de Matemática, Astronomía y Física Universidad Nacional de Córdoba, Córdoba, Argentina (June-July 2002).
  8. Six lectures on *Singular integrals and Haar functions* at the Summer School on Analysis, Instituto de Matemática, Unidad Cuernavaca, UNAM, México (June 2000). Attended by roughly 40 students (advanced undergraduates and graduates) and professors from all over Mexico. Lecture notes were published by Contemporary Mathematics **289** AMS, Ch. I, p. 1-61 (2001).

- **Minicourses Scheduled in the Future:**

  1. Minicourse on *Dyadic Harmonic Analysis and Weight Theory.* Workshop for Women in Analysis and PDE, at the University of Minnesota and the Institute for Mathematics and its Applications on June 5-8 of 2012.

- **Teaching at Princeton University:**

  Taught Basic Calculus, Multivariable Calculus, Linear Algebra (1993-96).

- **Teaching Fellow, at Yale University:**

  Taught Single Variable Calculus, Several Variable Calculus. In charge of several problem sessions, grading and tutoring assignments (1987-92).

Curriculum Development and Teaching Administrative Positions

- I designed and taught a new course entitled *Introduction to Wavelets*. The course was received with enthusiasm by students from Engineering, Mathematics, Physics and other Sciences, as well as researchers from the labs. The success of the class gave impetus to redesign the existing course on Fourier Series and Integrals (that had not been taught in many years). The new course is called *Fourier Analysis and Wavelets* and it is now a staple of our curriculum. It has been taught at least once every two years by me or other professors.

- In 1999, I joined the *Calculus Team*, with Prof. Kapitula and Prof. Nitsche. The Calculus Team was created in an effort to improve the Calculus sequence taken mostly by engineers, and students who are planning to major in Mathematics, Physics or Computer Science. We coordinated the courses, prepared common handouts and mantained a webpage where all the handouts were posted (syllabus, homeworks, review material and exams and their solutions, etc) We selected a new textbook and designed new sillabi which we started using on Fall 2000. Since then Prof. Nitsche has coordinated the Calculus sequence with an iron hand.

- In Fall 2008, I was drafted into teaching a *Calculus for Biology and Medical students*. This is part of a concerted effort orchestrated (BA/MD Program) at the higher levels of the university to provide a very structured academic atmosphere to these students: they live on campus, they take all their classes together, and the cohort moves semester by semester together. The Department's commitment with this effort is to provide the mathematical expertise, and ensure that regular tenure/tenure track faculty teach this specially designed calculus sequence, as opposed to part timers, graduate students or even lecturers. The course emphasizes discrete dynamical systems, simple differential equations, and introduces the students to some probabilistic and statistical ideas.

- In August 2006, I became the *Chair of the Graduate Committee*.

  - Reevaluation of the jobs and duties of our TAs. Adding the figure of a TA for advanced courses (graduate and undergraduate), as a part of the global traning of our graduate students for their future role as teachers in colleges and universities.
  - Taught together with Prof. Umland the Teaching Seminar for our new graduate students (Fall 2008). Seminar will meet every other week for an hour and a hald (alternating weeks with the Graduate Colloquium).
  - PI for a large NSF proposal submited on June 5, 2007. This grant was awarded, it has benefited both our advanced undergraduate and begining graduate students (EMSW21-MCTP).
  - Reorganized the in-service week, adding a strong academic component: a series of talks introducing a large subset of the Faculty and their research interests, several inspiring lectures, and student warmup-evenings/talks (organized by senior graduate students) (2006-2009). The warmup was held again in Aug 2010.
  - Usual duties: overseeing the progress of all TAs and RAs in Mathematics, guaranteeing the timely production and grading of the qualifying exams (every January and August), as well as the timely discussion and veredict of the student's fate by the Faculty. Nominating students to various awards: Susan Deese-Roberts Outstanding Teaching Assistant of the Year, Efroymson Awards, A&S Supplemental Stipends for recruitment, A& S Dissertation Awards, etc. Evaluating applicants, and recruiting students to the program.
  - Wrote final report of the Graduate Committee under my tenure as Graduate Chair (Summer 2009).

Service

- **Service to the Mathematical Community**
  - NSF Panel Member (Jan 2011).
  - Member of the Committee on Students Chapters for the AWM (Association for Women in Mathematics) (August 2010-July 2012).
  - Proposal Reviewer for the NSF-Infrastructure Program in the Division of Mathematical Sciences (Spring 2009).
  - NSF Panel Member (Sep 2008).
  - Invited participant to the *Diversity in the Mathematics and Scientific Community* at the BANFF International Research Station for Mathematical Innovation and Discovery, held July 27-29, 2007.
  - **Reviewer/Referee/Editor:**
    - Ocassional Referee for Publicacions Matemàtiques, Illinois Journal of Mathematics, Journal of Functional Analysis, Proc. of the American Mathematical Society, Journal of Applied Analysis, The Royal Society of Edinburgh Proceedings A, Journal of the American Mathematical Society, Indiana University Mathematics Journal, Rev. Mat. Iberoamericana, the Journal of Fourier Analysis and Applications. the Rocky Mountain Journal.
    - Reviewer for Mathematical Reviews.
    - Reviewer for the book *Time-Frequency and Time-Scale Methods* by Jeffrey Hogan and Joseph Lakey. Birkhäuser Series on Applied and Numerical Harmonic Analysis, 2005.
    - Reviewer for book *Classical and Modern Harmonic Analysis* by Loukas Grafakos. Prentice Hall, 2003.
  - **Outside Reviewer for Tenure and Promotion cases**
    I have been external reviewer for four tenure and promotion to Associate Professor cases, and one Midtenure Review for University of Connecticut (2010); University of Portland (2008, 2010); Scripps College, CA (2011); and Wichita State University (2004).
  - **External Reviewer:** for an internal grant on Targeted Excellence Proposal *Interdisciplinary Interactions in mathematics* presented by the Department of Mathematics from Kansas State University, (2004).
  - **Invited Participant:** to the workshop *Diversity in the Mathematics and Scientific Community* at the BANFF International Research Station for Mathematical Innovation and Discovery, held July 27-29, 2007.

- **Conferences Organized:**
  - Co-organizer with Stephanie Salomone Molnar (University of Portland) of four Special Sessions on *Dyadic and non-dyadic Harmonic Analysis* in the Southwestern Sectional AMS meeting 1059, held at UNM, Albuquerque, NM, April 17-18, 2010.
  - *Twelveth New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, April 22-24, 2009 (sponsored by NSF). Invited Speaker: Loukas Grafakos (University of Missouri at Columbia). (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
  - *Eleventh New Mexico Analysis Seminar* (joint NMSU/UNM) at Las Cruces, NM, April 4-6, 2008 (sponsored by NSF). Main Speaker: María-Carme Calderer (University of Minnesota). Other Speakers: 13. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
  - Co-organizer with Wilfredo Urbina of four Special Sessions on *Harmonic Analysis and Operator Theory* in the AMS Regional Meeting # 1032 held in Albuquerque, October 13-14, 2007. Total Number of Speakers: 24.
  - Co-organizer with Wilfredo Urbina of an *Afternoon in Honor to Mischa Cotlar*, on October 12, 2007. Invited Speakers: Carlos Berenstein (University of Maryland), Carlos Kenig (Chicago University) Cora Sadosky (Howard University), and Serguei Treil (Brown University). More than 100 participants.

- *Tenth New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, October 11-12, 2004 (sponsored by NSF). Main Speakers: Rodrigo Bañuelos (Purdue University) and Andrea Nahmod (University of Massachusetts, Amherst). Two other invited speakers: Rodolfo Torres (Unviersity of Kansas) and Oliver Dragicevic (Lyuvlana University, Slovenia). More than 100 participants. Short talks by 60 of our participants were delivered in the AMS meeting. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
- *Ninth New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, April 6-8, 2006 (sponsored by NSF). Main Speaker: Tatiana Toro (University of Washington). Other Speakers: 12. More than 50 participants. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
- Co-organizer of the NSF/CBMS Regional Conference in the Mathematical Sciences, *Nonlinear dispersive and wave equations.* Featured Speaker Field Medalist Terence Tao (UCLA). June 13-17, 2005, at Las Cruces, NM. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
- *Eigth New Mexico Analysis Seminar* (joint NMSU/UNM) at Las Cruces, NM, June 12, 2005 (sponsored by NSF). Main Speaker: Jorge Aarao (McKeena College, Claremont, CA), delivered lectures on preparation for Tao's lectures. Other Speaker: 8. More than 50 participants. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
- Co-organizer with Marianne Korten and Charles N. Moore of four Special Sessions on *Regularity in PDEs and Harmonic Analysis* in the AMS Regional Meeting # 1000 held in Albuquerque, October 16-17, 2004. Total Number of Speakers: 24.
- Departmental contact for organization of Southwestern Sectional AMS meeting 1000, held at UNM, Albuquerque, NM, October 16-17, 2004. This was the largest such meeting ever.
- *Seventh New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, October 13-14, 2004 (sponsored by NSF). Main Speakers: Patricia Bauman (Purdue University) and Luca Capogna (University of Arkansas). Four other invited speakers: Peter Sternberg (Indiana University), Lia Bronsard (McMaster Univeristy, Canada), Donatella Danielli (Purdue University), Scott Pauls (Dartmouth College). Over 90 participants. (with T. Giorgi (NMSU), J. Lakey (NMSU), A. Sikora (NMSU), R. Smits (NMSU)).
- *Sixth New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, March 6-8, 2003 (sponsored by NSF). Main Speaker: Jill Pipher (Brown University). Other Speakers: 28. More than 60 participants. (with J. Alvarez (NMSU) and J. Lakey (NMSU)).
- *Fifth New Mexico Analysis Seminar* (joint NMSU/UNM) at Las Cruces, NM, Feb 21-23, 2002 (sponsored by NSF). Main Speaker: John Benedetto (University of Maryland). Other Speakers: 20. More than 55 participants. (with J. Alvarez (NMSU) and J. Lakey (NMSU)).
- *Fourth New Mexico Analysis Seminar* (joint NMSU/UNM) at Albuquerque, NM, March 1-3, 2001 (sponsored by NSF). Main Speaker: Steve Hofmann (University of Missouri, Columbia). Other Speakers: 22 . More than 50 participants. (with J. Alvarez (NMSU) and J. Lakey (NMSU)).
- *Third New Mexico Analysis Seminar* (joint NMSU/UNM) at NMSU, Las Cruces, NM, Feb 24-26, 2000 (with J. Alvarez (NMSU) and J. Lakey (NMSU)).
- *Second New Mexico Analysis Seminar* (joint NMSU/UNM) at UNM, Albuquerque, NM, Feb 25-27, 1999 (with Vladimir Koltchiinski (UNM), J. Alvarez (NMSU) and J. Lakey (NMSU)).
- *First New Mexico Analysis Seminar* (joint NMSU/UNM) at NMSU, Las Cruces, NM, Feb 27-28, 1998 (with J. Alvarez (NMSU) and J. Lakey (NMSU)).
- Four Special Sessions in *Harmonic Analysis* in the AMS Regional Meeting # 928 held in Albuquerque, Nov 8-9, 1997 (with Jay Epperson (UNM)).

- **Public Lectures Organized at UNM:**

  All these speakers gave a Colloquium and series of lectures on a topic.

  - *Figiel's martingale approach to singular integrals,* by Prof. Diego Maldonado (Kansas State University). A series of four lectures on October 7-9, 2009.

- *Two weighted inequalities in harmonic analysis,* by Prof. Michael Lacey (Georgia Institute of Technology). This was a four hour lecture series on September 18, 2009.
- *Topics from Calderón-Zygmund theory related to Singular Integrals and weights,* by Prof. Carlos Perez (University of Sevilla, Spain). This was a series of five lectures delivered at UNM, July 1-5, 2008.
- Prof. Mike Wilson, University of Vermont (October 2007).
- Prof. Gustavo Ponce, University of California at Santa Barbara (April 2007).
- Prof. Rodrigo Bañuelos, Purdue University, IN (October 2006).
- Prof. Richard Gundy, Rutgers University, NJ (April 2006).
- Prof Oliver Dragicevic, Institute of Mathematics, Physics and Mechanics, Univesity of Ljubljana, Slovenia (January 2006).
- Prof. Arpad Benjyi, Western Washington University (November 2005).

The following were Math Contest speakers while I was in charge.

- *Elliptic Curves,* by Bjorn Poonen (University of California at Berkeley). Lecture for the participants in the XXXVIII New Mexico Math Contest, UNM, Feb 4, 2006.
- *Mathematics and computers: problems and prospects,* by Ron Graham (University of California at San Diego). Lecture for the participants in the XXXV New Mexico Math Contest, UNM, Feb 5, 2003.
- *Spherical harmonics and qubits: old and new computations in invariant theory,* by Roger Howe (Yale University). Colloquium UNM, Feb 1st, 2002.
- *Mirrors and reflections - Symmetry from several viewpoints,* by Roger Howe (Yale University). Lecture for the participants in the XXXIV New Mexico Math Contest, UNM, Feb 2, 2002.
- *Periods and L-functions,* by Fernando Rodríguez-Villegas (University of Texas at Austin). Colloquium UNM, Feb 2, 2001.
- *Lattice polygons: What's 12 got to do with it?* by Fernando Rodríguez-Villegas (University of Texas at Austin). Lecture for the participants in the XXXIII New Mexico Math Contest, UNM, Feb 3, 2001.
- *Zeta functions and theta functions from the heat kernel,* by Prof. Serge Lang (Yale University). Colloquium UNM, Feb 4, 2000.
- *The abc polynomial theorem and the abc conjecture,* by Prof. Serge Lang (Yale University). Lecture for the participants in the XXXII New Mexico Math Contest, UNM, Feb 5, 2000.
- *Symmetries,* by Prof. John Conway (Princeton University). Colloquium UNM, Feb 5, 1999.
- *Tangles, Bangles and Knots,* by Prof. John Conway (Princeton University). Lecture for the participants in the XXXI New Mexico Math Contest, UNM, Feb 6, 1999.

- **Seminars Organized at UNM:**
  - Analysis Seminar (Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Fall 2009, Spring 2010, Fall 2010)
  - Harmonic Analysis and Martingales (Fall 2005, Spring 2006).
  - Harmonic Analysis and PDEs (Fall 2005, Fall 2006, Spring 2008).
  - Navier-Stokes Seminar (Fall 2002).
  - Functional Analysis Seminar (Spring 1999).
  - Wavelets Seminar (Fall 1997, Spring 1998).
  - Analysis Seminar (Fall 1996, Spring 1997, Fall 1997).

- **University Service:**
  - Member of the A& S Mid-probationary, Tenure and Promotion Committee (Academic year 2009-10).

- Volunteer participant both as a facilitator for ECE courses and having my graduate course Math 511-Analysis II (Spring 2010), and my upper-level undergraduate course Math 401- Advanced calculus (Fall 2010), assesed by a facilitator using *Small Group Instructional Diagnosis (SIGD)*, in a pilot project coordinated by ECE Professor Majeed Hayat.
- Member of the Selection Committee for the Graduate Dean's Dissertation Fellowship (Spring 2009).
- PhD Committee for ECE graduate student: Thakshila Wimalajeewa Wewelwala (Dissertation Defense Fall 2009).
- Member of a Hiring Committee for a position in ECE (Fall 07-Spring 2008).
- Member Computer Engineering Hiring Committee (Spring 2000).

- **Departmental Service:**
  - Hiring Committee for Pure Mathematics position (Spring 2012).
  - Member Tenure and Promotion committee in charge of Matthew Blair's tenure and promotion to Associate Professor (Fall 2011).
  - Member Promotion Committee to Full Professor for Michael Nakamaye (Fall 2009).
  - Member Mid-tenure Review Committee for Matthew Blair (Fall 2009).
  - Chair of the Graduate Committee (Fall 2006–Summer 2009).
  - Member Hiring committee for the replacement position for Donna George (Coordinator, Student advising) (Spring 2008).
  - Chair Hiring Committee for Pure Mathematics positions (Fall 2006, Spring 2007).
  - Hiring Committee for Pure Mathematics position (Fall 2004-Spring 2005).
  - Hiring Committee for Visiting Position (Spring 2005).
  - Hiring Committee for Applied Analysis position (Fall 2001-Spring 2002).
  - Calculus Team with Todd Kapitula and Monika Nitsche (Fall 1999, Spring 2000).
  - Math Contest Committee with Cathy Gosler (Fall 1999-Spring 2006, excluding Fall 2003-Spring 2004 while on sabatical). Information about the contest can be found online at:
    http://www.math.unm.edu/math_contest/contest.html
  - Hiring Commitee for an Applied Analysis position (Fall 1999-Spring 2000).
  - Hiring Committee for two lecturer positions (Fall 1999).
  - Graduate Committee (Fall 1998, Spring 1999, Fall 1999, Spring 2000, Fall 2000, Spring 2005, Fall 2005, Spring 2006, Fall 2010; Fall 2006-Summer 2009 (chair)).
  - Undergraduate Committee (Spring 1997, Fall 1997, Spring 1998).
  - Member of the subcommittee responsible for writting and grading the *Real Analysis Qualifying Exam* (Spring 1998, Fall 1998, Spring 1999, Fall 1999, Spring 2000, Fall 2000, Fall 2001, Spring 2002, Spring 2005, Fall 2005, Spring 2006, Spring 2007, Fall 2007, Fall 2008, Jan 2009, Fall 2009, Spring 2010, Fall 2010, Jan 2011).
  - Member of the subcommittee responsible for writting and grading the *Complex Analysis Qualifying Exam* (Spring 2003).

- **Professional Memberships:** American Mathematical Society (AMS), Association for Women in Mathematics (AWM), Mathematical Association of America (MAA).

- **Service to the Community**
  - Volunteer to be a role model at the Hispanic Heroes session in the Hispanic Youth Symposium held at University of New Mexico on July 10, 2008.
  - Referee for AISO (Soccer League), U6-7 (2006-07, 2007-08), U7-8 (2011-2012).
  - Volunteer at Montevista Elementary School: once or twice a month in my sons' kindergarden classes (2006-07, 2009-2010).