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EDUCATION:

- 1996 **Courant Institute of Mathematical Sciences**
Ph.D., May 1996.
Thesis: *Noncompact Manifolds with Lower Ricci Curvature Bounds and Minimal Volume Growth*
Adviser: Professor Jeff Cheeger
- 1991 **College of Arts and Science, N.Y.U.**
B.A., *magna cum laude*
Majors: Mathematics and English
Minor: Physics
- 1987 **Hunter College High School**

EXPERIENCE:

- 2005-present **Lehman College, City University of New York, Associate Professor**
Analysis I, Independent Study on Topics in Math, Fall 2008
Differential Geometry, Ind. Study on Analysis II and Precalculus, Spring 2008
Analysis I and College Now Precalculus, Fall 2007
Research Leave, Spring 2007
Calculus I and College Now Precalculus, Fall 2006
Calculus I and College Now Precalculus, Spring 2006
Precalculus, Fall 2005
Intermediate Calculus I, Spring 2005
- 2003-present **Graduate Center, City University of New York, Doctoral Faculty**
Supervising Doctoral Student: Pedro Solarzano, 2008-
Supervised Doctoral Student: Michael Munn, PhD, 2004-2008
Special Topics Course: Metric Geometry, Fall 2005
- 1999-present **Lehman College, City University of New York, Assistant Professor**
Unpaid Maternity Leave for Kendall, Fall 2003 - Fall 2004
Intermediate Calculus II, Spring 2003
NonEuclidean Geometries and Intermediate Calculus II, Fall 2002
Unpaid Maternity Leave for Penelope, Spring 2001 - Spring 2002
Elements of Linear Algebra and Calculus I Maple Labs, Fall 2000
Calculus I and Calculus I Maple labs, Spring 2000
Unpaid Maternity Leave for Tabitha, Fall 1999
- 1997-1999 **Johns Hopkins University, Assistant Professor**
Analysis I-II
Introduction to Differential Geometry
Partial Differential Equations with Applications
Riemannian Geometry I-II for Graduate Students
- 1996-1997 **Harvard University, Lecturer**
Real Analysis for undergraduates,
Multivariable Calculus (with Mathematica).

AWARDS:

- 2008-2012 **NSF MTTI Grant: MSP 0832247**
Mathematics Teacher Transformation Institute
PI with coPIs M. Wolfe, S. Gningue, S. Libfield, and S. Menendez
- 2001-2006 **NSF Research Grant: DMS-0102279**
The Topology of Open Manifolds with Nonnegative Ricci Curvature
- 1999-2009 **PSC CUNY Research Grants**
used to reduce teaching load
- 1999-2000 **National Science Foundation AWM Travel Grant**
for travel to Odense, Denmark.
- 1997-1998 **National Science Foundation ICM98 Travel Grant**
for travel to Berlin, Germany.
- 1991 - 1996 **National Science Foundation Fellowship**
Multi-year Fellowship, G.S.A.S., N.Y.U.
- 1987-1991 **Alumni Anniversary Prize for Academic Excellence, 1991**
Sidney Goldwater Roth Memorial Prize for Mathematics, 1991
E. H. Hornstein Prize for English Literature, 1991
Alumni Scholarship, towards NYU tuition 1987-1991

SERVICE:

- 2008-present **Mathematics Teacher Transformation Institute**
developing masters level geometry courses for MTTI
recruiting teacher participants for the MTTI
creating teacher assessment tools for MTTI
- 2006-present **College Now Mathematics Advisor**
teaching and developing courses for the College Now Program
which offers serious proof-oriented mathematics and college credit
to top math students at local public high schools in the Bronx
- 2004-present **Educational Policy Committee**
twice elected member of the Lehman College Math and Comp Sci Dept EPC
redesigned the courses for the masters program in mathematics
implemented uniform detailed syllabi for Precalc through Calc II.
- 2001-present **CUNY Differential Geometry Seminar**
Weekly seminar coorganized with J. Dodziuk and Maxim Laurentiu
Prior coorganizers include David Fisher and Yiannis Petridis,
In charge of scheduling, hosting and the webpage most years,
See <http://comet.lehman.cuny.edu/sormani/seminars/diffie.html>
- 2003-present **AMS Riemannian Geometry Media Contact**
Interviewed by a variety of journalists writing articles on Perelman
Edited *Poincare's Prize* by George Szpiro for mathematical content

- 2007-2008 **CUNY Isoperimetric Inequality Workshop**
August 15, 2008 coorganized with M. Lucia,
3 invited speakers, 15 participants
- 2007-2008 **NYWIMN Discussion Panelist**
Success Strategies for Women in Mathematics
May 2, 2008, New York City College of Technology
- 2005-2006 **CUNY Geometric Analysis 2006: The Laplace and Length Spectra**
Feb 3-5, 2006 coorganized with J. Dodziuk and Y. Petridis,
14 invited speakers, 61 registered participants
- 2005-2006 **Joint CUNY/Courant NYC Rigidity Theory Workshop:**
A four speaker event 3/10/2006 coorganized with Stefan Wenger (CIMS),
- 2004- 2005 **Differential Geometry Workshop**
A three speaker satellite to Cheeger's Birthday Conference, Apr 30, 2005
- 2004- 2005 **CUNY Geometric Analysis 2005:**
March 19-20, 2005, coorganized with J. Dodziuk and R. Sibner,
10 invited speakers, 39 registered participants
- 2002-2005 **Lehman College Calculus Committee Chair**
we surveyed the calculus records of troubled math majors,
we revised the syllabi for PreCalculus through Intermediate Calculus
we designed trigonometry and precalculus review sessions
- 2003- 2005 **Presentations and Notes on Perelman's Work**
gave undergraduate talks at Tufts, Williams, Wellesley and Lehman Colleges,
posted the transparencies used in these talks for general use,
posted notes on Perelman's talks on Lott and Kleiner's website
- 2003-2004 **Geometric Analysis and its Applications:**
Feb 7-8, 2004, coorganized Feldman's Retirement Conference with J. Dodziuk
and I.Chavel,
6 plenary speakers, 11 contributed talks, 60 registered participants
- 2003-2004 **2004 Spring Eastern Sectional Meeting of the AMS**
coorganized a **Special Session** with X. Rong and G. Wei,
entitled "Convergence of Riemannian Manifolds".
- 2003-2004 **Association of Women in Mathematics**
coorganized the January Joint Meeting panel on
"Supporting the Diverse Personal Lives of Mathematicians"
moderating the webforum on the same topic
- 2001-2002 **2002 Spring Eastern Sectional Meeting of the AMS**
coorganizing a **Special Session** with R. Rotman and K. Tapp,
entitled "Curvature and Topology".
- 2000-2001 **2001 Spring Eastern Sectional Meeting of the AMS**
coorganized a **Special Session** with Megan Kerr of Wellesley
entitled "Ricci Curvature and Related Topics".
- 1999-2000 **2000 Fall Eastern Sectional Meeting of the AMS**
coorganized a **Special Session** with Xiaochun Rong of Rutgers
entitled "Riemannian Manifolds and their Limit Spaces".

- 1999-2000 **Lehman College Math and Computer Science Club**
coadvised the club and organized/attended weekly meetings,
- 1999-2000 **Association of Women in Mathematics**
wrote “A report on How to Increase the Number of Tenured Women in Mathematics” for the AWM newsletter.
moderated the AWM Web Forums,
- 1999-2000 **Calculus Committee Member at Lehman College**
wrote 11 interactive Maple projects for Calculus I Labs
designed a calculus webpage at <http://comet.lehman.cuny.edu/calculus>
- 1997-1999 **Johns Hopkins University**
Cofounded and coadvised the Math Club.
Participated in the Undergraduate Curriculum Committee.
- 1992-1995 **Courant Institute of Mathematical Sciences**
Founded and organized the **Introductory Lecture Series**
to introduce various fields of mathematics to new graduate students.

SELECTED INVITED TALKS:

- 2008 **UNAM Workshop Global Riemannian Geometry, May 2008**
“Open Questions on Open Manifolds with $\text{Ricci} \geq 0$ ”
plenary talk in Mexico
- 2008 **Seminaire Borel: New Approaches to Curvature August 24-29, 2008**
“Gromov Hausdorff Convergence and the Covering Spectrum”
Four hour course for doctoral students in Switzerland
- 2008 **Southeast Geometry Conference, Plenary Talk, March 14-6, 2008**
“Understanding the Topology of Manifolds with Nonneg Ricci Curvature”
- 2008 **University of Arizona, Colloquium, January 24, 2008**
“An Almost Isotropic Universe”
- 2007 **Brown University, Extreme Geometry Seminar, March 1, 2007**
“Covering Spectra of Riemannian Manifolds and Length Spaces”
- 2007 **University of Connecticut, Geometry Seminar, March 13, 2007**
“The Rescaled and Cut-off Covering Spectra”
- 2007 **Texas Geometry and Topology Conference, March 23-5, 2007**
“Various Covering Spectra Spectra and Shift Spectra ”
- 2007 **Urbana-Champagne, Differential Geometry Seminar, April 12, 2007**
“Almost Isotropy and Exponential Length Spaces”
- 2007 **Bloomington Geometry Workshop, Plenary Address, April 2007**
“The Cut-off Covering Spectrum and Gromov-Hausdorff Convergence”
- 2006 **Midwest Geometry Conference, Plenary Address**
“The Topology of Riemannian Manifolds with Nonnegative Ricci Curvature”

- 2006 **Princeton University, Geometric Analysis Seminar,**
“The Spacelike Stability of the Isotropic Friedmann Model”
- 2006 **Semi-Annual Workshop in Dynamical Systems and Related Topics**
Geometry session talk on the topology of manifolds with $Ricci \geq 0$
- 2006 **Cornell University, Analysis Seminar,**
“Ricci Curvature and the Topology of Open Manifolds”
- 2005 **Harvard University, Differential Geometry Seminar,**
“The Covering Spectrum and Convergence of Manifolds”
- 2005 **Rutgers University, Topology/Geometry Seminar,**
“Subsets of the Length Spectrum and Convergence”
- 2005 **Penn State Univ, Geometry and Topology Seminar,**
“Gromov-Hausdorff Stability of Schur’s Lemma”
- 2004 **Dartmouth College, Colloquium,**
“Inhomogeneity and the Curvature of the Spacelike Cosmos”
- 2004 **U. Penn Analysis Seminar,**
“The Covering Spectrum”
- 2004 **Rutgers University at Newark, Colloquium**
“The Gromov-Hausdorff Stability of the Friedman Model”
- 2004 **Dartmouth College, Differential Geometry Seminar,**
“The Length and Covering Spectra”
- 2004 **Spectral Geometry Workshop, CRM , Montreal**
“The Covering Spectrum, the Length Spectrum and Convergence”
- 2003 **Lehigh University, Conference on Geometry and Topology**
“The Stability of Isotropy and the Friedmann Model ”
- 2003 **University of Maryland, College Park, Geometry-Topology Seminar**
“Exponential Length Spaces ”
- 2003 **U Penn, Differential Geometry and Analysis Seminar**
“Almost Isotropy, Schur’s Lemma and Cosmology”
- 2003 **Spring Eastern Sectional Meeting of the AMS**
Nonlinear Partial Differential Equations in Differential Geometry
”Almost Rigidity and Stability”
- 2003 **Joint Mathematics Meetings, Baltimore, January**
Recent Advances in Riemannian and Lorentzian Geometry,
“The Stability of the Friedmann Model”
- 2002 **Fall Eastern Sectional Meeting of the AMS**
Developments and Applications in Differential Geometry
“The Gromov-Hausdorff Stability of the Spacelike Friedmann Model”

- 2002 **Stanford University and AIM, General Relativity Workshop**
 “Using Gromov-Hausdorff Convergence to understand the Spacelike Cosmos”
- 2002 **Columbia University, Geometry and Analysis Seminar**
 “Limits of covers of balls with Ricci curvature bounded below”
- 2002 **Brown University, Geometry Seminar**
 “Gromov-Hausdorff Limits of Manifolds with Lower Ricci Curvature Bounds”
- 2002 **Johns Hopkins University, Analysis Seminar**
 “Universal Covers Exists on Limits of Manifolds with Lower Ricci Curvature Bounds ”
- 2001 **State University of New York, Stony Brook, Colloquium**
 “Hausdorff Convergence and Universal Covers”
- 2001 **Lehigh University, Conference on Geometry and Topology**
 “Limits and Covers of Compact Spaces with Ricci Curvature Bounds”

PUBLISHED RESEARCH PAPERS:

“Conjugate Points in Length Spaces”

written with Krishnan Shankar
 to appear in *Advances in Mathematics*, 48pp.

“The Cut-off Covering Spectrum”

written with Guofang Wei
 to appear in *Transactions of the American Mathematical Society*, 52pp.

“The Topology of Open Manifolds of Nonnegative Ricci Curvature”.

written with Zhongmin Shen, Midwest Geometry Conference 2006,
Communications in Mathematical Analysis, Conf. 01. (2008) pp 11-19.

“Convergence and the Length Spectrum”.

Advances in Mathematics, Vol 213, Issue 1, 1 August 2007, pp 405-439.

“The Covering Spectrum of a Noncompact Length Space”.

written with Guofang Wei,
Journal of Differential Geometry 67 (2004) 35-77.

“Friedmann Cosmology and Almost Isotropy”.

Geometric and Functional Analysis, Vol. 14 (2004) 853-912.

“Universal Covers for Hausdorff Limits of Noncompact Spaces”.

written with Guofang Wei, 34 pages
Transactions of the AMS 356 (2004), no. 3 pp. 1233-1270

“Hausdorff Convergence and Universal Covers”.

written with Guofang Wei

Transactions of the American Mathematical Society 353 (2001), 3585-3602.

“The Codimension One Homology of a Complete Manifold with Nonnegative Ricci Curvature”

written with Zhongmin Shen

American Journal of Mathematics 123 (2001) , 515-524.

“On Loops Representing Elements of the Fundamental Group of a Complete Manifold with Nonnegative Ricci Curvature”

Indiana Univ. Math. Journal 50 (2001), no. 4, 1867–1883.

“Nonnegative Ricci Curvature, Small Linear Diameter Growth and Finite Generation of Fundamental Groups”.

Journal of Differential Geometry 54 (2000) 547-559.

“Harmonic Functions on Manifolds with Nonnegative Ricci Curvature and Linear Volume Growth”.

Pacific Journal of Mathematics, Vol 192, No 1, (2000) 183-189.

“The Almost Rigidity of Manifolds with Lower Bounds on Ricci Curvature and Minimal Volume Growth”.

Communications in Analysis and Geometry Vol 8 No. 1 (2000) 159-212.

“Busemann Functions on Manifolds with Lower Bounds on Ricci Curvature and Minimal Volume Growth”.

The Journal of Differential Geometry, Vol 48, (1998) 557-585.

PREPRINTS:

“Various Covering Spectra for Complete Spaces”

writing with Guofang Wei