

CHRISTINA SORMANI
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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:

- 2003-present **Graduate Center, City University of New York, Doctoral Faculty**
Supervising Doctoral Student: Michael Munn, 2004-present
Special Topics Course: Metric Geometry, Fall 2005
- 2005-present **Lehman College, City University of New York, Associate Professor**
College Now Discrete Mathematics, Fall 2006
Calculus I and College Now Precalculus, Spring 2006
Precalculus, Fall 2005
Intermediate Calculus I, Spring 2005
- 1999-2005 **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:

- 2001-2006 **NSF Research Grant: DMS-0102279**
The Topology of Open Manifolds with Nonnegative Ricci Curvature, \$85,714.00

- 1999-2007 **PSC CUNY Research Grants 31-37**
Covering Spectra of Compact Length Spaces
- 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:

- 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),
- 2006-present **College Now/Math Circle 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**
elected member of the Lehman College Math and Comp Sci Department EPC
redesigned the courses for the masters program in mathematics
implemented uniform detailed syllabi for Precalc through Calc II.
- 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 Intremediate Calculus
we designed trigonometry and precalculus review sessions
- 2003- 2005 **Presentations and Notes on Perelman's Work**
created the webpage "Introduction to Perelman"
<http://comet.lehman.cuny.edu/sormani/others/introperelman.html>,
gave undergraduate talks at 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
- 2002-2004 **Lehman College Math Circle**
cofounded a math club for high school students with J. Halabi,
we held 4-5 meetings a semester Fall 2002- Spring 2004
this has been replaced by the College Now Program
- 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
- 2001-2005 **CUNY Differential Geometry and Analysis Seminar**
coorganized the seminar with 16 speakers in Spring-Summer 2006,
coorganized the seminar with 8 speakers in the Fall 2005 semester.
organized the seminar with 11 meetings in the Spring 2003 semester.
coorganized the seminar with 11 meetings in the Fall 2002 semester.
organized the seminar with 15 meetings in the Spring 2002 semester.
organized the seminar with 12 meetings in the Fall 2001 semester.
organized the seminar with 11 meetings in the Spring 2001 semester.
- 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:**

- 2006 **Princeton University, Geometric Analysis Seminar,**
 “The Spacelike Stability of the Isotropic Friedmann Model”
- 2006 **Midwest Geometry Conference, Plenary Speaker,**
 “The Topology of Riemannian Manifolds of Nonnegative Ricci Curvature”
- 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 **Dartmouth College, Differential Geometry Seminar,**
 “The Length and Covering Spectra”
- 2004 **Spectral Geometry Workshop,**
Centre de recherches mathématiques , Montreal
 “The Covering Spectrum, the Length Spectrum and Convergence”
- 2003 **University of Maryland, College Park, Geometry-Topology Seminar**
 “Exponential Length Spaces ”
- 2003 **University of Pennsylvania, Differential Geometry and Analysis
Seminar**
 “Almost Isotropy, Schur’s Lemma and Cosmology”
- 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”

**RESEARCH
PAPERS:**

Convergence and the Length Spectrum.

to appear in *Advances in Mathematics*.

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.

**EXPOSITORY
PAPERS:**

The Topology of Open Manifolds of Nonnegative Ricci Curvature.

written with Zhongmin Shen

to appear in *The Midwest Geometry Conference Proceedings 2006*.