William Wylie
Curriculum Vitae

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APPOINTMENTS

Assistant Professor, Syracuse University	2011-present.
Post-doctoral lecturer, UPenn	2008-2011
VIGRE Assistant Professor, UCLA	2007-2008
Post-doc - program on Geom. Evol. Eqns, MSRI,	Fall 2006

EDUCATION

Ph.d.	**University of California, Santa Barbara,** Mathematics	2006
	Thesis advisor: Guofang Wei	
M.A.	**University of California, Santa Barbara,** Mathematics	2003
B.S.	**Providence College,** Mathematics & Computer Science	2001

HONORS, AWARDS, & VISITING POSITIONS

NSF Research Grant: DMS-1654034	2017-2022
CAREER: Aspects of Riemannian Geometry and manifolds with density	
Simons Foundation Collaboration Grant for Mathematicians : # 355608	2015-2017
Riemannian Geometry for manifolds with density	
Visiting Scholar, Cornell University Math Department	Spring & Fall 2016
Research Member, MSRI Program in Differential Geometry	May 2016
NSF Research Grant : DMS-0905527	2009-2013
Geometry of smooth metric measure spaces and Ricci flow	
UCSB Graduate Council Fellowship	2005-2006
UCSB Graduate Student Teaching Award	2005

PUBLICATIONS AND PREPRINTS

1. Weighted Sectional Curvature and convexity of manifolds with density,
   with L. Kennard & D. Yeroshkin,
   In preparation.

2. The Lorentzian N-Bakry-Émery Cheeger-Gromoll theorem
   with E. Woolgar,
   In preparation.

3. On the geometry of Riemannian manifolds with density,
   with D. Yeroshkin,
   [arXiv:1602.08000](https://arxiv.org/abs/1602.08000).

4. A warped product version of the Cheeger-Gromoll splitting theorem,
   Accepted, to appear in *Trans. Amer. Math. Soc.*,
   [arXiv:1506.03800](https://arxiv.org/abs/1506.03800).

5. Gradient shrinking Ricci solitons of half harmonic Weyl curvature,
with J-Y. Wu & P. Wu,
arXiv:1410.7303.

6. Positive weighted sectional curvature,
with L. Kennard,
Indiana Univ. Math. J., 66(2), pp. 419-462, 2017.

7. Cosmological singularity theorems and splitting theorems for N-Bakry-Emery spacetimes,
with E. Woolgar,
J. Math. Physics, 57(2), 2016.

8. Some curvature pinching results for manifolds with density,
Proc. Amer. Math. Soc., 144(2), pp. 823-836, 2016.

9. Sectional curvature for Riemannian manifolds with density,
Geometriae Dedicata, 178(1), pp. 151-169, 2015.

10. Warped product Einstein metrics on homogeneous spaces and homogeneous Ricci solitons,
with C. He & P. Petersen,
J. Reine Angew. Math. (Crelle's), 2015(707), pp.217-245, 2015.

11. Uniqueness of Warped Product Einstein metrics and applications,
with C. He & P. Petersen
J. Geom. Anal., 25(4), pp. 2617-2644, 2015.

12. Warped Product Rigidity,
with C. He & P. Petersen
Asian J. of Math., 19(1), pp. 135-170, 2015.

13. Conformal diffeomorphisms of gradient Ricci solitons and GQE manifolds,
with J. Jauregui,
J. Geom. Anal., 25(1), pp. 668-708, 2015.

14. Warped product Einstein metrics over spaces with constant scalar curvature,
with C.He & P. Petersen,
Asian J. Math., 18(1), pp. 159-190, 2014.

15. On the classification of warped product Einstein metrics,
with C. He & P.Petersen
Comm. in Anal. and Geom., 20(2), pp. 271-312, 2012.

16. On the classification of gradient Ricci solitons,
with Peter Petersen
Geom. & Top., 14, pp. 2277-2300, 2010.

17. Comparison Geometry for the Bakry-Emery Tensor,
with Guofang Wei,
J. of Diff. Geom., 83(2), pp. 377-406, 2009.

18. On gradient Ricci solitons with symmetry,
with Peter Petersen,
Proc. Amer. Math. Soc., 137, pp. 2085-2092, 2009.

19. Rigidity of gradient Ricci solitons,
with Peter Petersen,
Pacific J. of Math., 241(2), pp. 329-345, 2009.

20. Complete shrinking Ricci solitons have finite fundamental group,
Proc. Amer. Math. Soc., 136(5) pp. 1803–1806, 2008.

21. Comparison Geometry for smooth metric measure spaces,
(with Guofang Wei)
Proc. of the 4th ICCM. Hangzhou, China, Vol. II pp. 191-202, 2007.

22. Noncompact manifolds with nonnegative Ricci curvature,
    J. Geom. Anal. 16(3), pp. 535-550, 2006.

INVITED TALKS

Research Talks

Geometry and Analysis on Manifolds Conference, Santa Barbara, CA	April 2017
Penn State Geometry Seminar	April 2017
University of Toronto Geometry & Topology Seminar	March 2017
CMS session on Geometric PDEs, the Einstein equation, and mathematical relativity, Niagara Falls, ON	December 2016
University of Rochester Geometry Seminar	November 2016
Cornell Geometric Analysis Seminar	October 2016
Geometric Analysis on Riemannian and Metric Spaces Conference, Kyoto, Japan	September 2016
EGEO 2016, Workshop on Differential Geometry, Cordoba, Argentina	August 2016
Geometry Seminar, MSRI	May 2016
Frankfest 2016, Williams College	February 2016
Geometric Analysis Mini-Conference at Rutgers University	November 2015
Johns Hopkins Analysis and PDE Seminar	September 2015
Cornell Geometric Analysis Seminar	March 2015
AMS special session on Ricci curvature for homogeneous spaces, San Antonio, TX	January 2015
CMS session on Differential Geometry, Hamilton, ON	December 2014
UCSB Differential Geometry Seminar	October 2014
Mini-Workshop on Einstein metrics, Ricci solitons, and Ricci flow under symmetry assumptions, Oberwolfach	October 2014
Workshop on Ricci solitons with symmetry, Chapel Hill, NC	May 2014
Workshop on Homogeneous Ricci flow and solitons, Dartmouth	February 2014
Univ. of Oklahoma Geometry Seminar	January 2014
Rutgers-CUNY Symposium on Geometric Analysis	December 2013
Union College Math Conference	October 2013
AMS Special Session on Parabolic Evol. Eqns. of Geom. Type, Philadelphia	October 2013
McMaster University Geometry & Topology Seminar.	November 2012
AMS Special Session on Riem. Geometry and Geom. Analysis, Tucson, AR	October 2012
AMS Special Session on Geometric Evolution Equations, Rochester, NY	September 2012
Workshop on Optimal Transport and Differential Geometry, Banff	May 2012
Workshop on Ricci solitons with symmetry, Univ. of Oklahoma	March 2012
University of Waterloo Geometry Seminar	March 2012
Cornell University Analysis seminar	March 2012
UCLA Geometry Seminar	January 2012
UCSB Geometry Seminar	January 2012
AMS special session on Differential Equations of Parabolic type, Cornell Univ.	September 2011
Michigan University Differential Geometry seminar	March 2011
Cornell University analysis seminar	March 2011
Saint Louis University colloquium	March 2011
Syracuse University colloquium	March 2011
Utah State University Colloquium	February 2011
University of Missouri Colloquium	February 2011
Emory University analysis seminar	February 2011
California Polytech San Luis Obispo colloquium	January 2011
University of Connecticut Colloquium	January 2011
University of Pittsburgh Colloquium	January 2011
CUNY Differential Geometry seminar	November 2010
SAGE: Symposia on Analysis of Geometric Evolution workshop, Austin, TX	September 2010
Lafayette Geometry and Topology seminar	March 2010
Princeton geometric analysis seminar	February 2010
Lehigh geometry seminar	December 2009
AMS Special session on Global Riemannian Geometry, Riverside, CA	November 2009
AMS Special session on Formation of Singularities in Geometric Flows, Waco, TX	October 2009

SUNY-Stony Brook, Geometry seminar	October 2009
CUNY Differential Geometry workshop	June 2009
SAGE, Austin, TX	May 2009
SUNY Buffalo, Geometry and Topology Seminar	October 2008
AMS Special Session on Nonlinear Elliptic eqns. and Geom. inequalities, Courant	March 2008
UC Riverside, Differential Geometry Seminar	February 2008
UC San Diego, Differential Geometry Seminar	November 2007
Workshop on Curvature and Global Shape, Münster, Germany	July 2007
UC Santa Barbara, Differential Geometry Seminar	May 2007
Mathematical Sciences Research Institute	October 2006
UC Riverside, Differential Geometry Seminar	May 2006
UCLA, Differential Geometry Seminar	February 2006
AMS Special Session on Ricci Flow/Riemannian Geometry, UCSB	April 2005

Talks for students

Union College Student Seminar	January 2017
Graduate Student mini-course on Ricci solitons, Rutgers University	November 2015
CSU Chico, Colloquium	April 2007
CSU Northridge, Graduate Student Seminar	March 2007
CSU Channel Islands, graduate student seminar	October 2005

OTHER CONFERENCE PARTICIPATION(past 5 years)

Workshop on Curvature and Global shape, Münster, Germany	August 2015
Workshop on Ricci curvature, Northwestern University	May 2015
Park City Math Institute Research Program in Geometric Analysis	July 2013
Lehigh Geometry and Topology conference	2009, 2010, 2013
Geometry Festival	2009, 2011
Pacific Northwest Geometry Seminar, Oregon St.	November 2011
Interactions between Analysis and Geometry, Notre Dame	October 2010
Geometrie, Oberwolfach, Germany	June 2010
Workshop on Global Riemannian Geometry, Cuernevaca, Mexico	May 2008

TEACHING (Syracuse)

(MAT 551) Fundamental Concepts in Geometry	Spring 2014, 2017
(MAT 375) Intro. to Abstract Math	Fall 2014, 2015 Spring 2015, 2017
(MAT 554) Differential Geometry	Spring 2015
(MAT 705) Analysis on Manifolds	Fall 2014
(MAT 397) Calculus III (Coordinator)	Fall 2013
(MAT 771) Differential Geometry (Graduate)	Spring 2013
(MAT 295) Calculus I (Coordinator, large lecture)	Fall 2012
(MAT 514) Intro. to ODE	Spring 2012
(MAT 397) Calculus III	Spring 2012
(MAT 331) Introduction to Linear Algebra	Fall 2011

SERVICE

Graduate Committee chair, Syracuse Univ. Math Department.	2014-2015.
Co-Organizer, Syracuse Univ. Geom. & Top. seminar	2012-present.
Graduate Committee member, Syracuse Univ. Math Department.	2012-2013.
Undergraduate undeclared student advising, Syracuse Univ.	2012-2014.
Scientific committee, Ricci Solitons Days in Pisa 2011.	Apr. 2011
Organizer, AMS Special Session on global geometric analysis. Los Angeles, CA.	Oct. 2010
Referee for *Proc. of AMS, Archiv der Math., Quart. J. of Math*	2007-present
Ann. of Global Anal. and Geom., Pacific J. of math, Proc. London M. Society, Duke Math J.	