

Columbia University, Department of Mathematics  
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### Education

- 2004-2008. Ph.D. Mathematics, University of California at Irvine.  
• Thesis: *The structure of complete manifolds with positive spectrum.*  
• Advisor: Peter Li
- 2002-2004. M.S. Mathematics, Transilvania University, Romania.  
1998-2002. B.S. Mathematics, Transilvania University, Romania

### Employment

Ritt Assistant Professor, Department of Mathematics, Columbia University, 2008-present.

### Awards and Grants

- NSF Grant DMS 1005484  
Ricci curvature and the structure of manifolds, 2010-2013
- Kovalevsky Award-Outstanding Ph.D. Thesis  
Department of Mathematics, University of California, Irvine, 2008
- Outstanding Performance as a Graduate Student  
Department of Mathematics, University of California, Irvine, 2006

### Research Interest

Differential Geometry and Partial Differential Equations

### Publications

1. (with J. Wang) *Analysis of the weighted Laplacian and applications to Ricci solitons*, to appear in *Comm. Anal. Geom.*
2. *On the gradient estimate of Cheng and Yau*, *Proc. Amer. Math. Soc.* 140 (2012), 1437-1443.

3. (with J. Wang) *Smooth metric measure spaces with non-negative curvature*, Comm. Anal. Geom, 19 (2011), no. 3, 451-486.
4. (with M.-T. Wang) *The curvature of gradient Ricci solitons*, Math. Res. Lett. 18 (2011), no. 6, 1051-1069.
5. (with N. Sesum) *On gradient Ricci solitons*, to appear in J. Geom. Anal.
6. (with G. Székelyhidi) *On convergence of the Kähler-Ricci flow*, Comm. Anal. Geom. 19 (2011), no. 5, 887-903.
7. (with N. Sesum) *The Poisson equation on complete manifolds with positive spectrum and applications*, Adv. Math. 223 (2010), no. 1, 198-219.
8. *On a characterization of the complex hyperbolic space*, J. Differential Geom 84 (2010), no. 3, 611-621.
9. *A sharp estimate for the bottom of the spectrum of the Laplacian on Kähler manifolds*, J. Differential Geom. 83 (2009), no. 1, 163-187.
10. *Two results on the weighted Poincaré inequality on complete Kähler manifolds*, Math. Res. Lett. 14 (2007), no.6, 995-1008.

### Invited Talks

- PDE Seminar at University of Chicago, April 2012
- Colloquium at Michigan State University, February 2012
- Colloquium at University of Iowa, February 2012
- Colloquium at Tulane University, February 2012
- Colloquium at University of Colorado at Boulder, January 2012
- Colloquium at Brandeis University, January 2012
- Colloquium at University of Connecticut, January 2012
- Conference in honor of Peter Li's 60th birthday, Irvine, January 2012
- Colloquium at George Washington University, January 2012
- Analysis Seminar at Cornell University, November 2011
- Geometry Seminar at Lehigh University, November 2011
- AMS Western Section Meeting, Salt Lake City, October 2011
- Colloquium at University of Minnesota, September 2011

- AMS Eastern Section Meeting, Cornell, September 2011
- Workshop: Ricci Soliton days in Pisa, April 2011
- FRG Workshop on Low Dimensional Topology and Geometry, Princeton, March 2011
- Geometry Seminar at Ohio State University, November 2010
- Geometry Seminar at University of Minnesota, October 2010
- AMS Western Section Meeting, Los Angeles, October 2010
- AMS Eastern Section Meeting, Syracuse, October 2010
- Geometry Seminar at Princeton University, September 2010
- Joint AMS-Mexico Meeting (Special Session), Berkeley, June 2010
- Geometry Seminar at Stony Brook University, April 2010
- FRG Workshop on Mean Curvature Flows and Related Topics, Johns Hopkins University, March 2010
- Geometry Seminar at University of Pennsylvania, November 2009
- Geometry Seminar at Michigan State University, October 2009
- Lehigh University Geometry and Topology Conference, June 2009
- AMS Western Section Meeting, San Francisco, April 2009
- Geometry Seminar at CUNY, April 2009
- Geometry Aeminar at UC Irvine, February 2009
- Geometry Seminar at Lehigh University, February 2009
- Geometry Seminar at Columbia University, September 2008
- AMS Western Section Meeting, Claremont McKenna College, May 2008
- Geometry Seminar at Princeton University, February 2008
- Math Graduate Student Colloquium at UC Irvine, October 2007
- Geometry Seminar at Chapman University, April 2007
- Geometry Seminar at California State, Fullerton, March 2007
- Geometry Seminar at UC Irvine, March 2007
- Geometry Seminar at UC San Diego, February 2007

**Teaching Experience**

- Teaching at Columbia University
  - Spring 2012-Partial Differential Equations
  - Fall 2011-Ordinary Differential Equations
  - Spring 2011-Partial Differential Equations
  - Fall 2010-Calculus I
  - Spring 2010-Linear Algebra
  - Fall 2009-Calculus I
  - Spring 2009-Ordinary Differential Equations
  - Fall 2008-Calculus I
  
- Teaching Assistant at University of California, Irvine:
  - Fall 2008- Introductory Partial Differential Equations
  - Fall 2007- Theory of Differentia Equations
  - Winter 2007- Linear Algebra
  - Winter 2007-Introductory Analysis
  - Spring 2006-Multivariable Calculus

**Services**

Referee for American Journal of Mathematics, Asian Journal of Mathematics, Communications in Analysis and Geometry, Comptes Rendus Mathematique, International Mathematics Research Notices, Journal of Differential Geometry, Journal of Geometric Analysis, Journal of Geometry and Physics, Journal of Mathematical Analysis and Applications, Mathematical Research Letters, Proceedings of the AMS, The Quarterly Journal of Mathematics.

PhD Thesis defense committee: David Lazenja, Columbia University (2010)

**Affiliations**

American Mathematical Society  
Romanian Mathematical Society, SSMR

**Personal**

Nationality: Romanian  
Status: Permanent Resident of USA