

# CURRICULUM VITAE OF ANDREA MONDINO

## PERSONAL INFO

Born in Cuneo (Italy) on the 5<sup>th</sup> December 1984.

## CURRENT POSITION

**Associate Professor** at the Mathematics Institute-Warwick University, since July 2018.

Italian “Abilitazione a Professore di Prima Fascia in Analisi e Geometria”

(i.e. qualification to become full professor both in Analysis and in Geometry), since March 2017.

## EDUCATION and PREVIOUS POSITIONS

- **Assistant Professor** at the Mathematics Institute-Warwick University, September 2016-June 2018.
- **Lecturer** in Mathematics at Zürich University, September 2015-September 2016.
- **Hunke Fellow** during the semester program “Differential Geometry” at MSRI-Berkeley, January 2016 to May 2016.
- **Lecturer** in Mathematics at ETH-Zurich, March 2015-September 2015.
- **ETH fellow** (Prestigious Post Doc position at ETH-Zurich cofounded by Marie-Curie Actions) from March 2013 to February 2015. Group of Prof. Tristan Rivière.
- **Post Doc**: from September 2011 to March 2013 post doc at Scuola Normale Superiore (Pisa-Italy) under the ERC grant “Geometric measure theory in non euclidean spaces” directed by Prof. Luigi Ambrosio.
- **Ph. D. in Mathematics**: 3<sup>rd</sup> September 2011-SISSA (Trieste, Italy). Supervisor: Prof. Andrea Malchiodi.
- **Master Degree in Mathematics**: 18<sup>th</sup> July 2008-SISSA&Trieste University. Passing grade of 110 with honors. Supervisor: Prof. Andrea Malchiodi.
- **Bachelor Degree in Mathematics**: 18<sup>th</sup> July 2006-Torino University (Italy). Passing grade of 110 with honors. Supervisor: Prof. Anna Fino.

## HONORS

- **ERC Starting Grant 2018.**  
Winner of an ERC Starting Grant in July 2018. Grant awarded: 1 250 000 EURO.
- **Bartolozzi Prize 2017.**  
Prize awarded by the Italian Mathematical Union every two years to an Italian mathematician below the age of 34.
- **Bourbaki seminar: 14<sup>th</sup> January 2017.**  
Professor Cédric Villani gave a Bourbaki Seminar on my joint work with F. Cavalletti on Lévy-Gromov isoperimetric inequality in non-smooth spaces.
- **Huneke Fellow at MSRI-Berkeley: January to May 2016.**  
Prestigious post-doc fellowship awarded once per semester by MSRI-Berkeley.
- **Course during the “Introductory workshop: Modern Riemannian Geometry”, MSRI-Berkeley. 18<sup>th</sup> – 22<sup>nd</sup> January 2016.**  
Invited to give a course on synthetic notions of Ricci curvature in non-smooth spaces in such an occasion, during the semester program “Differential Geometry” at MSRI-Berkeley.
- **Cours de l’IHÉS 2015-2016.**  
Professor Cédric Villani gave a course at the IHÉS on synthetic notions of curvature in non-smooth spaces; the last lectures were devoted to discuss my joint work with F. Cavalletti on Lévy-Gromov isoperimetric inequality in non-smooth spaces.
- **ETH Fellow: March 2013-March 2015.**  
Prestigious post-doc fellowship awarded by ETH-Zurich to young scientists (not only Mathematicians) before the 2<sup>nd</sup> year after the discussion of the Ph.D. Thesis.
- **Gioacchino Iapichino Prize 2014.**  
Award given by the Accademia Nazionale dei Lincei of Italy to a mathematician under 30 years old, author of an original work in the field of Mathematical Analysis.
- **Oberwolfach Leibniz Graduate Student: 2012-2013.**  
MFO of Oberwolfach selects few post-docs and give to them the opportunity to participate to several Workshops organized by the institute covering the expenses; on a merit base.
- **Benedetto Sciarra International Prize 2010, 1<sup>st</sup> placement ex-aequo.**  
Award given by the Scuola Normale Superiore of Pisa to a student who took the master degree in Mathematics in an Italian or foreign University during the years 2008-2009.
- **Winner of the Marco Reni Prize 2009.**  
Prize given by the University of Trieste to a student who took the master degree in Mathematics in Trieste during the previous 3 years.
- **SISSA Master Degree’s Fellowship: 2006-2008.**  
Fellowship assigned by SISSA through a national competition (6 fellowships at national level); the annual confirmation of the fellowship is on a merit base.
- **Premio Optime 2007.**  
Award assigned by the Industrial Union of Turin to the best students graduated in the University of Turin.
- **INDAM Bachelor Degree’s Fellowship: 2003-2006.**  
Fellowship assigned by INDAM through a national competition (50 fellowships at national level); the annual confirmation of the fellowship is on a merit base.
- **Italian Mathematic Olympics 2003, 3<sup>rd</sup> placing in the team competition.**  
National mathematical competition for students of high school; the team, composed by 5 students, placed 3<sup>rd</sup>.

## GRANTS

- **ERC Starting Grant 2018.** 1 250 000 EURO.  
Period: 1<sup>st</sup> February 2019 - 31<sup>th</sup> January 2024.  
Grant Acronym: CURVATURE.  
Grant title: Optimal transport techniques in the geometric analysis of spaces with curvature bounds.  
Grant reference number: 802689.
- **EPSRC First Grant.** 126 438 GBP.  
Period: 1<sup>st</sup> January 2018 - 31<sup>th</sup> December 2019. RC Grant reference: EP/R004730/1.  
Grant title: Optimal transport and geometric analysis.
- **ETH Fellowship (Marie-Curie Actions).** 206 000 CHF.  
Period: March 2013-March 2015. Grant reference: FEL -01 12-2.  
Grant title: Weak immersions of surfaces into Manifolds and the Willmore functional.

## INVITATION TO GIVE COLLOQUIA

- Mathematics Colloquium UAM-ICMAT, Madrid: 28<sup>th</sup> April 2017.
- Warwick Colloquium in Mathematics: 9<sup>th</sup> February 2018.
- Colloquium in Pure Mathematics, Durham: 19<sup>th</sup> February 2018.
- Colloquium in Mathematics, Fribourg: 15<sup>th</sup> May 2018.

## INVITATION TO INTERNATIONAL CONFERENCES (as speaker)

- A Geometry Day in Como, 12<sup>th</sup> January 2018.
- Geometric Analysis at Roscoff, Centre Henri Lebesgue, 9<sup>th</sup>-13<sup>th</sup> October 2017.
- Metric measure spaces and Ricci curvature, Max Plank Institute, Bonn, 18<sup>th</sup>-22<sup>nd</sup> September 2017.
- Geometric Analysis in smooth and non-smooth spaces, SISSA-Trieste, 19<sup>th</sup>-23<sup>rd</sup> June 2017.
- 23<sup>rd</sup> Rolf Nevalinna Colloquium, ETH-Zurich. 12<sup>th</sup>-17<sup>th</sup> June 2017.
- Curvature-dimension in Lyon 1 (Lyon, France). 15<sup>th</sup>-17<sup>th</sup> March 2017.
- Yearly Differential Geometry Day-Durham University. 24<sup>th</sup> February 2017.
- Workshop on Geometric Partial Differential Equations-Warwick University. 12<sup>th</sup>-16<sup>th</sup> December 2016.
- Workshop on Heat Kernels, Stochastic Processes and Functional Inequalities-MFO, Oberwolfach. 27<sup>th</sup> November -3<sup>rd</sup> December 2016.
- Optimal transport and applications (Scuola Normale Superiore, Pisa, Italy). 7<sup>th</sup>-11<sup>th</sup> November 2016.
- Geometric Analysis on Riemannian and Metric Spaces (RIMS, Kyoto, Japan). 5<sup>th</sup>-9<sup>th</sup> September 2016.
- Analysis and Numerics in Curvature Energies-Meeting (Freiburg, Germany). 26<sup>th</sup>-27<sup>th</sup> July 2016.
- Workshop on Calculus of Variations-MFO, Oberwolfach. 11<sup>th</sup>-15<sup>th</sup> July 2016.
- Invited to give a mini-course at the “Introductory workshop: Modern Riemannian Geometry” during the semester program “Differential Geometry”, MSRI-Berkeley. 18<sup>th</sup> – 22<sup>nd</sup> January 2016.
- Partial Differential Equations-MFO, Oberwolfach. 3<sup>th</sup>-7<sup>th</sup> August 2015.
- Workshop on curvature and global shape (Münster, Germany). 26<sup>th</sup> July-1<sup>st</sup> August 2015.
- International workshop on Optimal Transport and Geometry (Montpellier, France). 22<sup>th</sup> – 26<sup>th</sup> June 2015.
- Geometric Analysis, Free Boundary Problems and Measure Theory (Leipzig, Germany). 15<sup>th</sup> – 17<sup>th</sup> June 2015.
- Geometric Flows: Recent Developments and Applications (BIRS, Banff, Canada). 12<sup>th</sup> – 17<sup>th</sup> April 2015.
- ERC Workshop on Optimal Transportation and Applications (Centro De Giorgi, Pisa, Italy). 26<sup>th</sup> – 31<sup>st</sup> October 2014.
- 37<sup>th</sup> Süddeutsches Kolloquium über Differentialgeometrie (Ulm, Germany). 11<sup>th</sup> – 12<sup>th</sup> July 2014.
- Isoperimetric Problems Between Analysis and Geometry, Scuola Normale Superiore (Pisa, Italy). 16<sup>th</sup> – 20<sup>th</sup> June 2014.
- Workshop on mass transport in analysis and probability, YEP XI, EURANDOM (Eindhoven, The Netherlands). 10<sup>th</sup> – 14<sup>th</sup> March 2014.
- Geometric Variational Problems-BIRS (Banff, Canada). 15<sup>th</sup> – 20<sup>th</sup> December 2013.
- Partial Differential Equations-MFO, Oberwolfach. 4<sup>th</sup> – 10<sup>th</sup> August 2013.

- The Willmore Functional and the Willmore Conjecture-MFO, Oberwolfach. 21<sup>th</sup> – 27<sup>th</sup> July 2013.
- Variational Problems and Geometric PDE'S (Granada, Spain). 17<sup>th</sup> – 21<sup>th</sup> June 2013.
- Submanifolds and Spin Geometry at Nancy (France). 13<sup>th</sup> – 15<sup>th</sup> May 2013.
- Heat Kernels, Stochastic Processes and Functional Inequalities-MFO, Oberwolfach. 5<sup>th</sup> – 11<sup>th</sup> May 2013.
- Interaction between analysis and geometry-Workshop “Analysis on metric spaces”. IPAM-UCLA, Los Angeles. 12<sup>th</sup> – 15<sup>th</sup> March 2013.
- Workshop on Calculus of Variations-MFO, Oberwolfach. 22<sup>nd</sup> – 27<sup>th</sup> July 2012.
- Variational and perturbative methods for nonlinear differential equations- Venice. 20<sup>th</sup> – 22<sup>nd</sup> January 2011
- Oberwolfach seminars: The Willmore functional-MFO, Oberwolfach. 24<sup>th</sup> – 30<sup>th</sup> October 2010.
- International Conference on the Isoperimetric Problem of Queen Dido and its Mathematical Ramifications-Carthage, Tunisia. 21<sup>st</sup> – 30<sup>th</sup> May 2010.
- Geometric Flows and Geometric Operators-CRM De Giorgi, Pisa. June 2009.

#### INVITATIONS TO DEPARTMENTS' SEMINARS (as speaker)

- Oberseminar Dynamische Systeme, Ruhr-Universität Bochum, 3<sup>rd</sup> July 2018.
- Geometric Analysis Seminar, Bern, 16<sup>th</sup> May 2018.
- Analysis & Geometry Seminar, Bristol, 24<sup>th</sup> April 2018.
- Analysis Seminar, Durham, 19<sup>th</sup> February 2018.
- PDE Seminar, Oxford, 29<sup>th</sup> January 2018.
- Analysis Seminar, SISSA-Trieste, 16<sup>th</sup> May 2017.
- Analysis Seminar, University of Bath, 6<sup>th</sup> April 2017.
- Analysis Seminar, University of Jyväskylä (Finland), 29<sup>th</sup> March 2017.
- Geometry Seminar, University of Leeds. 1<sup>st</sup> March 2017.
- Differential Geometry Seminar, University of Münster. 16<sup>th</sup> January 2017.
- Geometry Seminar, King's College of London and University College of London. 5<sup>th</sup> October 2016.
- Analysis Seminar, RWTH Aachen University. 5<sup>th</sup> July 2016.
- Analysis Seminar, University of Texas at Austin. 7<sup>th</sup> March 2016.
- Brussels-London geometry seminar about “Lower bounds on Ricci curvature” 12<sup>th</sup> January 2016.
- Seminars on Geometric Analysis and Mathematical General Relativity, Tübingen University. 5<sup>th</sup> November 2015.
- Seminario di Analisi e Geometria, Pavia. 6<sup>th</sup> October 2015.
- Geometry and Dynamics seminar-EPFL, Lausanne. 25<sup>th</sup> March 2015.
- Analysis and PDEs Seminar-University of Sussex. 16<sup>th</sup> March 2015.
- Department of Mathematics-University of Bath. 28<sup>th</sup> January 2015.
- Department of Mathematics-Warwick University. 14<sup>th</sup> January 2015.
- Institute of Science and Technology-Vienna. 8<sup>th</sup> January 2015.
- Department of Mathematics-University of Bonn. 10<sup>th</sup> December 2014.
- Geometry Seminar-ETH, Zurich. 12<sup>th</sup> November 2014.
- Geometry & Analysis Seminar, joint Frankfurt & Karlsruhe. 7<sup>th</sup> May 2014.
- Seminario di Equazioni Differenziali, Roma 2 (Tor Vergata). 14<sup>th</sup> January 2014.

- Analysis Seminar, Basel. 25<sup>th</sup> September 2013.
- Seminario di Matematica pura ed applicata, Pavia. 11<sup>th</sup> June 2013.
- CVGMT seminar-Pisa Department of Mathematics. 30<sup>th</sup> January 2013.
- Topics in Geometric Analysis-Max Planck Institute and Potsdam University, Berlin. 15<sup>th</sup> November 2012.
- Geometry Seminar-Institute de Mathématiques de Jussieu, Paris. 1<sup>st</sup> October 2012.
- Analysis Seminar-Warwick Department of Mathematics. 17<sup>th</sup> May 2012.
- Seminario de Geometría-Granada Department of Mathematics. 7<sup>th</sup> March 2012.
- Analysis and Geometry Seminar-Imperial College, London. 26<sup>th</sup> January 2012.
- CVGMT seminar-Pisa Department of Mathematics. 23<sup>rd</sup> October 2011.
- Analysis Seminar-ETH, Zurich. 4<sup>th</sup> October 2011.
- Geometric Analysis seminar-Freiburg Department of Mathematics. 19<sup>th</sup> October 2010.
- Geometric Analysis seminar-Freiburg Department of Mathematics. 21<sup>st</sup> April 2010.
- Analysis Seminar-Turin Department of Mathematics. 14<sup>th</sup> May 2009.

## RESEARCH PERIODS

- SISSA (Italy). 15<sup>th</sup> – 28<sup>th</sup> May 2017 (Invited by A. Lerario). 23<sup>th</sup> – 30<sup>th</sup> June 2017 (Invited by F. Cavalletti).
- Department of Mathematics of Jyväskylä (Finland). 27<sup>th</sup> – 31<sup>th</sup>-March 2017 (Invited by T. Rajala).
- Department of Mathematics of Texas Austin. 27<sup>th</sup>-February-12<sup>th</sup>-March 2016 (Invited by F. Maggi).
- MSRI-Berkeley. 15<sup>th</sup> January-20<sup>th</sup> May 2016.
- Dipartimento di Matematica, Pavia. 5<sup>th</sup> – 9<sup>th</sup> October 2015 (Invited by F. Cavalletti).
- Department of Mathematics, Northwestern University, Chicago. 17<sup>th</sup>–24<sup>th</sup> April 2015 (Invited by A. Naber).
- Hausdorff Institute of Mathematics, Bonn. 5<sup>th</sup> January–15<sup>th</sup> February 2015. (Fellow during the trimester “Optimal Transportation”).
- Department of Mathematics, Northwestern University, Chicago. 25<sup>th</sup> – 31<sup>st</sup> January 2014 (Invited by A. Naber).
- Dipartimento di Matematica, Pavia. 10<sup>th</sup> – 16<sup>th</sup> June 2013 (Invited by G. Savaré).
- Institut de Mathématiques de Jussieu, Paris. 1<sup>st</sup> – 11<sup>th</sup> October 2012 (Invited by P. Laurain).
- Department of Mathematics Dieudonné-Nice. 16<sup>th</sup> – 26<sup>th</sup> April 2012 (Invited by N. Gigli).
- Department of Mathematics, Granada. 5<sup>th</sup> – 9<sup>th</sup> March 2012 (Invited by F. Urbano).
- ETH, Zurich. 6<sup>th</sup> – 25<sup>th</sup> February 2012 (Invited by T. Rivière).
- ETH, Zurich. 18<sup>th</sup> September-15<sup>th</sup> October 2011 (Invited by T. Rivière).
- Freiburg Department of Mathematics. 17<sup>th</sup> – 23<sup>rd</sup> October 2010 (Invited by E. Kuwert).
- Freiburg Department of Mathematics. 11<sup>th</sup> April-10<sup>th</sup> May 2010 (Invited by E. Kuwert).

## LANGUAGES

- English: level B2 (I passed the First Certificate in English, called also FCE, of the Cambridge University).
- German: level B1.
- French: basic (studied for three years at school).

## TEACHING EXPERIENCE

- Fall semester 2013: Teaching assistant of the course “Differential Geometry I” at ETH-Zurich (titular of the course Prof. Eichmair).
- Spring semester 2014: Teaching assistant of the course “Differential Geometry II” at ETH-Zurich (titular of the course Prof. Eichmair).
- Spring semester 2015: I taught “Introduction to Geometric Measure Theory” at ETH-Zurich, a master-graduate course focusing on BV functions and Finite Perimeter Sets.
- In the academic year 2014-2015, at ETH-Zurich, I cosupervised (with Maria Colombo and Tristan Rivière) the bachelor Thesis of Philippe von Wurstemberger having title “Minimal surfaces and the Bernstein Theorem”.
- Fall semester 2015: I taught “Analytical aspects of Riemannian geometry” at the University of Zurich, a master-graduate course covering the following topics: variational theory of geodesics, existence of a min-max closed geodesic, Bochner technique and applications, spectral bounds, laplacian and volume comparison theorems, Cheeger-Gromoll Splitting theorem, Gromov-Hausdorff convergence and some ideas of Cheeger-Colding theory of limits of manifolds with Ricci curvature lower bounds.
- Spring semester 2016: invited to give a mini-course at MSRI Berkeley about metric measure spaces satisfying Ricci curvature lower bounds, during the thematic semester “Differential Geometry”.
- Fall semester 2016, 2017, 2018: I taught “Introduction to geometry”, a first year course covering the following topics: the Euclid axioms of plane geometry, isometries of the plane, congruence of triangles, ruler and compass constructions, spherical geometry, inversion and stereographic projection, conformal maps.
- Second marker for the 4<sup>th</sup> year research project of: James Knohout “Nodals sets and the Nadi-rashvili conjecture” (supervisor Topping), Hannah Tse Debenham “Fractals in the Heisenberg group” (supervisor András Máthé).

## SUPERVISION

Ph.D. Students:

- Aidan Browne, started in October 2017 at University of Warwick;
- Christian Scharrer, started in October 2017 at MASDOC-University of Warwick;
- Daniele Semola, started in October 2017 at Scuola Normale Superiore in Pisa, co-supervision with Prof. Luigi Ambrosio.

## SERVICES

- Reviewer for the American Mathematical Society.
- Referee services for the following journals: Advances in Mathematics, American Journal of Mathematics, Analysis and Geometry in metric spaces, Analysis and PDEs, Annales Scientifiques de l'École Normale Supérieure, Annales IHP-Analyse Non Linéaire, Annali di Matematica Pura ed Applicata, Annals of Probability, Calculus of Variations and Partial Differential Equations, Communications in Analysis and Geometry, Communications in Pure and Applied Analysis, Communications in Pure and Applied Mathematics, Discrete and Continuous Dynamical System - A, Duke Math. Journ., Intern. Math. Res. Not., Journal de l'École Polytechnique, Journ. Amer. Math. Soc., Journ. Europ. Math. Soc., Journal of London Math. Soc., Journal de Mathématiques Pures et Appliquées, Journal of Geometric Analysis, Journal of Functional Analysis, Geometric and Functional Analysis (GAFA), Geometric Flows, Geometry and Topology, Memoirs of AMS, Mathematical Communications, Nonlinear Analysis: Theory, Methods & Applications, Potential Analysis, Proceedings of the American Math. Soc., Proceedings of London Math. Soc., Publicacions Matemàtiques, Transactions of AMS.

- Organization of activities: co-organizer of the weekly seminar of Geometric Analysis at MSRI-Berkeley during the spring semester 2016; co-organizer of the workshop “Optimal Transportation”, Hausdorff Institut of Mathematics, Bonn, 29<sup>th</sup> August-2<sup>nd</sup> September 2016; organizer of the Warwick Analysis seminar, fall term 2017.



## PUBLICATIONS

1. A. Mondino, *Some results about the existence of critical points for the Willmore functional*, Math. Zeit., Vol. 266, Num. 3, (2010), pp. 583–622
2. A. Mondino, *The conformal Willmore Functional: a perturbative approach*, Journal of Geometric Analysis, Vol. 23, (2013), no. 2, pp. 764–811.
3. A. Mondino, *The Willmore and other  $L^p$  curvature functionals in Riemannian manifolds*, Ph. D. Thesis (2011), SISSA digital library.
4. N. Gigli, A. Mondino, *A PDE approach to non linear potential theory*, Journal de Mathématiques Pures et Appliquées, Vol. 100, (2013), no. 4, pp. 505–534.
5. A. Mondino, *Existence of Integral  $m$ -Varifolds minimizing  $\int |A|^p$  and  $\int |H|^p$  in Riemannian Manifolds*, Calculus of Variations and Partial Differential Equations, Vol. 49, (2014), no. 1–2, pp. 431–470.
6. E. Kuwert, A. Mondino, J. Schygulla, *Existence of immersed spheres minimizing curvature functionals in compact 3-manifolds*, Math. Annalen, Vol. 359, (2014), no. 1, pp. 379–425.
7. A. Mondino, T. Rivière, *Immersed Spheres of Finite Total Curvature into Manifolds*, Advances in Calculus of Variations, Vol. 7, (2014), no. 4, pp. 493–538.
8. A. Mondino, J. Schygulla *Existence of immersed spheres minimizing curvature functionals in non-compact 3-manifolds*, Annales de l’Institut Henri Poincaré / Analyse non linéaire, Vol. 31, (2014), pp. 707–724.
9. A. Mondino, T. Rivière, *Willmore Spheres in Compact Riemannian Manifolds*, Advances in Mathematics, Vol. 232, (2013), no.1, pp. 608–676.
10. A. Carlotto, A. Mondino, *Existence of generalized totally umbilic 2-spheres in perturbed 3-spheres*, Int. Math. Res. Not., Vol. 2014, (2014), no. 21, pp. 6020–6052.
11. N. Garofalo, A. Mondino, *Li-Yau and Harnack type inequalities in  $RCD^*(K, N)$  metric measure spaces*, Nonlinear Analysis: Theory, Methods & Applications Vol. 95, (2014), pp. 721 – 734.
12. L. Keller, A. Mondino, T. Rivière, *Embedded surfaces of arbitrary genus minimizing the Willmore energy under isoperimetric constraint*, Arch. Rational Mech. Anal., Vol. 212, (2014), pp. 645–682.
13. A. Mondino, H. T. Nguyen, *A Gap Theorem for Willmore Tori and an application to the Willmore Flow*, Nonlinear Analysis: Theory, Methods & Applications, Vol. 102, (2014), pp. 220–225.
14. A. Mondino, A. Naber, *Structure Theory of Metric-Measure Spaces with Lower Ricci Curvature Bounds*, preprint arXiv:1405.2222, pp. 1–35, (2014), to appear in Journal of European Math. Soc..
15. P. Laurain, A. Mondino, *Concentration of small Willmore spheres in Riemannian 3-manifolds*, Analysis & PDE, Vol. 7, (2014), no. 8, pp. 1901–1921.
16. L. Ambrosio, N. Gigli, A. Mondino, T. Rajala, *Riemannian Ricci curvature lower bounds in metric measure spaces with  $\sigma$ -finite measure*, Trans. Amer. Math. Soc. 367 (2015), no. 7, pp. 4661–4701.
17. N. Gigli, A. Mondino, T. Rajala, *Euclidean spaces as weak tangents of infinitesimally Hilbertian metric spaces with Ricci curvature bounded below*, Journal für die Reine und Angew. Math. (Crelle’s journal), Vol. 705, (2015), pp. 233–244.
18. A. Mondino, *A new notion of angle between three points in a metric space*, Journal für die Reine und Angew. Math. (Crelle’s journal), Vol. 706, (2015), pp. 103–121.
19. N. Gigli, A. Mondino, G. Savaré, *Convergence of pointed non-compact metric measure spaces and stability of Ricci curvature bounds and heat flows*, Proc. London Math. Soc., Vol. 111, Num. 5, (2015), pp. 1071–1129.
20. A. Mondino, H. T. Nguyen, *Global conformal invariants for submanifolds*, preprint arXiv:1501.07527, pp. 1–28. (2015), to appear in the Annales de l’Institut Fourier.
21. A. Mondino, S. Nardulli, *Existence of Isoperimetric regions in non-compact Riemannian manifolds under Ricci curvature conditions*, Communications in Analysis and Geometry, Vol. 24, (2016), no. 1, pp. 115–136.
22. A. Mondino, T. Rivière, *A frame energy for immersed tori and applications to regular homotopy classes*, Journal of Differential Geometry, Vol. 104, (2016), no.1, pp. 143–186.

23. L. Ambrosio, A. Mondino, G. Savaré *On the Bakry-Émery condition, the gradient estimates and the Local-to-Global property of  $RCD^*(K, N)$  metric measure spaces*, Journal of Geometric Analysis, Vol. 26, (2016), pp. 24–56.
24. A. Mondino, G. Wei, *On the universal cover and the fundamental group of an  $RCD^*(K, N)$ -space*, preprint arXiv:1605.02854, pp.1–26, (2016), to appear in Crelle, DOI: 10.1515/crelle-2016-0068
25. M. Kell, A. Mondino, *On the volume measure of non-smooth spaces with Ricci curvature bounded below*, preprint arXiv:1607.02036, pp.1–17, (2016), to appear in Annali SNS-Classe di Scienze, DOI Number: 10.2422/2036 – 2145.201608.007.
26. F. Cavalletti, A. Mondino, *Measure rigidity of Ricci curvature lower bounds*, Advances in Mathematics, Vol. 286, (2016), pp. 430–480.
27. L. Ambrosio, A. Mondino, *Gaussian-type Isoperimetric Inequalities in  $RCD(K, \infty)$  probability spaces for positive  $K$* , Rend. Lincei Mat. Appl., Vol. 27, (2016), pp. 497–514 Special volume dedicated to the memory of E. De Giorgi.
28. F. Cavalletti, F. Maggi, A. Mondino, *Rigidity for critical points in the Levy-Gromov inequality*, preprint arXiv:1612.04119, pp.1–5, (2016), to appear in Math. Zeit.
29. N. Ikoma, A. Malchiodi, A. Mondino, *Embedded area-constrained Willmore tori of small area in Riemannian 3-manifolds I: minimization*, Proc. Lond. Math. Soc., Vol. 115, (2017), no. 3, pp. 502–544.
30. N. Ikoma, A. Malchiodi, A. Mondino, *Embedded area-constrained Willmore tori of small area in Riemannian 3-manifolds II: Morse Theory*, Amer. J. Math., Vol. 139, (2017), no. 5, pp. 1315–1378.
31. F. Cavalletti, A. Mondino, *Sharp and rigid isoperimetric inequalities in metric-measure spaces with lower Ricci curvature bounds*, Inventiones Math., Vol. 208, (2017), no. 3, pp. 803–849.
32. F. Cavalletti, A. Mondino, *Sharp geometric and functional inequalities in metric measure spaces with lower Ricci curvature bounds*, Geometry & Topology, Vol. 21, (2017), no. 1, pp. 603–645.
33. A. Carlotto, A. Mondino, *A non-existence result for minimal catenoids in asymptotically flat spaces*, Journal of London Math. Society, Vol. 95, (2017), no. 2, pp. 373–392.
34. F. Cavalletti, A. Mondino, *Optimal maps in essentially non-branching spaces*, Communications in Contemporary Math. Vol. 19, (2017), no. 6, 27 pp.
35. A. Mondino, E. Spadaro, *On a isoperimetric-isodiametric inequality*, Analysis and PDE, Vol. 10, (2017), no. 1, pp. 95–126.
36. L. Ambrosio, A. Mondino, G. Savaré, *Nonlinear diffusion equations and curvature conditions in metric measure spaces*, preprint arXiv:1509.07273, pp. 1–115, (2015), to appear in Memoirs Amer. Math. Soc.
37. B. Han, A. Mondino, *Angles between curves in metric measure spaces*, Anal. Geom. Metr. Spaces, Vol. 5, (2017), pp. 47–68.
38. C. Ketterer, A. Mondino, *Sectional and intermediate Ricci curvature lower bounds via Optimal Transport*, Advances in Math., Vol. 329, (2018), pp. 781–818.
39. F. Cavalletti, A. Mondino, *Almost euclidean Isoperimetric Inequalities in spaces satisfying local Ricci curvature lower bounds*, International Mathematics Research Notices (IMRN), <https://doi.org/10.1093/imrn/rny070>. (2018), pp.1–30.
40. F. Cavalletti, A. Mondino, *Isoperimetric inequalities for finite perimeter sets under lower Ricci curvature bounds*, Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl., Vol. 29, (2018), no. 3, 413–430.
41. F. Galaz-Garcia, M. Kell, A. Mondino, G. Sosa, *On quotients of spaces with Ricci curvature bounded below*, preprint arXiv:1704.05428, pp.1–51, (2017), to appear in Journal of Functional Analysis.
42. F. Cavalletti, F. Maggi, A. Mondino, *Quantitative isoperimetry á la Levy-Gromov*, preprint arXiv:1707.04326, pp. 1–30, (2017), to appear in Communications in Pure and Applied Mathematics.

## PREPUBLICATIONS

43. A. Lerario, A. Mondino, *Homotopy properties of horizontal loop spaces and applications to closed sub-riemannian geodesics*, preprint arXiv:1509.07000, pp. 1–24, (2015).
44. F. Cavalletti, A. Mondino, *New formulas for the Laplacian of distance functions and applications*, preprint arXiv:1803.09687, pp. 1–41, (2018).
45. N. Ikoma, A. Malchiodi, A. Mondino, *Foliation by area-constrained Willmore spheres near a non-degenerate critical point of the scalar curvature*, preprint arXiv:1806.00390, pp.1–23, (2018).
46. A. Mondino, D. Semola, *Polya-Szego inequality and Dirichlet  $p$ -spectral gap for non-smooth spaces with Ricci curvature bounded below*, preprint arXiv, pp:1–32, (2018).

## PROCEEDINGS

47. A. Mondino, *The Willmore Functional: a perturbative approach*, Online Proceedings of the "International Conference on the Isoperimetric Problem of Queen Dido and its Mathematical Ramifications", (2010).
48. A. Mondino, *The Willmore and other  $L^p$ -curvature functionals in Riemannian manifolds*, MFO Oberwolach Reports, Report Num. 36/2012, DOI:10.4171/OWR/2012/36, Calculus of Variations, 23-26, (2012).
49. A. Mondino, *Some new relations between  $CD^*(K, N)$ , the dimensional Bakry-Emery condition and the EVI property of gradient flows*, MFO Oberwolach Reports, Report Num. 23/2013, DOI: 10.4171/OWR/2013/23, Heat Kernels, Stochastic Processes and Functional Inequalities, (2013) .
50. A. Mondino, *A frame energy for tori immersed in  $R^m$ : sharp Willmore-conjecture type lower bound, regularity of critical points and applications*, MFO Oberwolach Reports (2013) .
51. A. Mondino, *PDEs in metric measure spaces and geometric applications*, MFO Oberwolach Reports (2013) .
52. A. Mondino, *Sharp and rigid isoperimetric inequalities in metric-measure spaces with lower Ricci curvature bounds*, MFO Oberwolach Reports (2015).
53. R. Kusner, A. Mondino, F. Schulze, *Willmore Bending Energy on the Space of Surfaces*, MSRI Emissary, spring (2016).
54. A. Mondino, *On a isoperimetric-isodiametric inequality*, MFO Oberwolfach Reports (2016) .
55. A. Mondino, *Functional inequalities via a 1-dimensional localization method*, MFO Oberwolfach Reports (2016), Heat Kernels, Stochastic Processes and Functional Inequalities.
56. N. Ikoma, A. Malchiodi, A. Mondino, *Area-constrained Willmore surfaces of small area in Riemannian three-manifolds: an approach via Lyapunov-Schmidt reduction*, Regularity and singularity for partial differential equations with conservation laws, pp. 31–50, RIMS Kokyuroku Bessatsu, B63, Res. Inst. Math. Sci. (RIMS), Kyoto, 2017.