

Ilaria Mondello

61, Avenue du Général de Gaulle – 94010 Créteil – France

✉ ilaria.mondello@u-pec.fr • 🌐 ilariamondello.com

Current Position

Associate professor (maître de conférence) Since September 2016
Université de Paris-Est Créteil, LAMA.

Previous positions and education

Postdoc, MSRI Semester in Differential Geometry January - May 2016
Mathematical Sciences Research Institute, Berkeley.

Postdoc, Fondation Sciences Mathématiques de Paris October - December 2015
Institut de Mathématiques de Jussieu, Paris.

Ph.D. in Mathematics

Title of the Ph.D. thesis: The Yamabe Problem on Stratified Spaces. 2012-2015

Advisor: Gilles Carron, Laboratoire de Mathématiques Jean Leray, Nantes.

Pre-prints

I. Mondello, A. Mondino, R. Perales, *An upper bound on the revised first Betti number and a torus stability result for RCD spaces*, arXiv:2104.06208.

G. Carron, I. Mondello, D. Tewodrose, *Limits of manifolds with a Kato bound on the Ricci curvature*, arXiv:2102.05940.

K. Akutagawa, I. Mondello, *Non-existence of Yamabe minimizers on singular spheres*, arXiv:1909.09367.

Publications

S. Honda, I. Mondello, *Sphere theorems for RCD and stratified spaces*, Annali della Scuola Normale di Pisa Cl. Sci. (5) 22 (2021), no. 2, 903–923, arXiv:1907.03482.

J. Bertrand, C. Ketterer, I. Mondello, T. Richard, *Stratified spaces and synthetic Ricci curvature bounds*, Annales de l'Institut Fourier (Grenoble) 71 (2021), no. 1, 123–173, arXiv:1804.08870.

I. Mondello, *An Obata singular theorem for stratified spaces*, Transactions of the American Mathematical Society, **370** (2018), 4147–4175, arXiv:1511.08093.

I. Mondello, *The Local Yamabe constant of Einstein stratified spaces*, Annales de l'Institut Henri Poincaré Analyse Non Linéaire **34** (2017), no. 1, 249–275, arXiv:1411.7996.

Survey articles

I. Mondello, *Structure des limites de variétés à courbure de Ricci minorée, d'après J. Cheeger, W. Jiang and A. Naber*, Séminaire Bourbaki (2020).

I. Mondello, *The Yamabe problem on stratified spaces*, *Oberwolfach reports*, **14**, issue 3 (2017).

Awards and funding

| | |
|---|-----------|
| Délégation Jeunes géomètres, Fondation Louis D., six-month leave from teaching. | 2019 |
| Délégation CNRS, six-month leave from teaching. | 2018 |
| Jeunes Maître de Conférences, one-year UPEC funding. | 2018 |
| Prime d'encadrement doctoral et de recherche. | 2018-2021 |
| PEPS (Projet exploratoire premier soutien), one-year CNRS funding. | 2017 |

Professional service

Co-organization of conferences and Workshops

| | |
|--|---------------|
| Bi-annual workshop <i>Geometry: exchanges and perspectives</i> Institut Henri Poincaré, with H. Auvray and A. Deruelle. | since 2017 |
| <i>Forum de jeunes mathématicien-ne-s, Géométrie et interactions.</i> Institut Henri Poincaré, with E. Di Nezza, E. Floris and A. Vaugon | October 2019 |
| Master class <i>Differential geometry: structure of limit spaces.</i> Institut Henri Poincaré, with L. Bessières, G. Besson, G. Carron, S. Tapie. | May 2019 |
| Workshop <i>Geometric analysis.</i> Institut Henri Poincaré, with P. Laurain, L. Hauswirth. | December 2018 |
| Meeting of the ANR project <i>Curvature constraints and space of metrics.</i> Université Paris Est Créteil, with T. Richard. | November 2018 |
| “Five-minute Talks”, MSRI. | January 2016 |
| Journée du Laboratoire de Mathématiques Jean Leray, with P. Vidotto. | July 2015 |
| Ph.D. students' seminar in Nantes. | 2013-2014 |

Participation in scientific committees

| | |
|---|-----------|
| Member of the Conseil du Laboratoire d'Analyse et Mathématiques appliquées. | 2018-2024 |
|---|-----------|

Recruitment of maîtres de conférences (assistant professors)

| | |
|---|------|
| Université Paris Est Créteil (Analysis and interactions). | 2021 |
| Université Marne la Vallée (Analysis and interactions with probability and geometry). | 2019 |

Ph.D. thesis defenses

| | |
|--|------|
| B. Stupovski, advisor R. Torres, SISSA. | 2020 |
| N. Marque, advisor P. Laurain, Université de Paris. | 2019 |
| D. Tewodrose, advisors L. Ambrosio et T. Coulhon, ENS. | 2018 |

Journal Refereed

Archiv der Mathematik, Transactions of the AMS.

Outreach

“Speed dating with a mathematician”, short meetings adressed to middle and high school students, at the *Girls and mathematics day: a bright equation.*, from 2018 to 2020.

Invited seminars and conferences

Online talks

| | |
|--|---------------|
| Workshop RCD spaces: splitting theorem and applications (UNAM). | October 2021 |
| Münster Oberseminar Differentialgeometrie. | June 2021 |
| Duke's Geometry and Topology seminar. | April 2021 |
| Bruxelles-Oxford-Warwick-London geometry seminar. | March 2021 |
| Joint seminar on complex geometry and analysis Bochum, Essen, Köln, Wuppertal. | January 2021 |
| Online workshop in geometric analysis, organised by A. Pluda (Università di Pisa). | December 2020 |
| CUNY Geometric Analysis Seminar. | July 2020 |
| Metric measure spaces and convergence, organised by R. Perales (UNAM). | June 2020 |

Conference talks

| | |
|--|----------------|
| Bourbaki seminar, Institut Henri Poincaré. | October 2021 |
| Advances in geometric analysis, Paris. | December 2019 |
| XXI Congresso dell'Unione matematica italiana, Pavia. | Sept. 2019 |
| Optimal transport and geometric analysis, Venezia. | April 2019 |
| Analytical problems in conformal geometry and applications, Regensburg. | Sept. 2018 |
| AIMS Conference on Dynamical Systems, Differential Equations, Taipei. | July 2018 |
| Conference in honour of S. Gallot's 70th birthday, Samothrace. | June 2018 |
| Intense activity period: Metric measure spaces and Ricci curvature, MPIM, Bonn. | Sept. 2017 |
| Analysis, geometry and topology of positive scalar curvature metrics, Oberwolfach. | August 2017 |
| Young Women in Geometry, Max Planck Institute for Mathematics, Bonn. | April 2017 |
| Workshops Space of metrics, Bordeaux. | March 2017 |
| France-Italy meeting in Geometric Analysis, Centro Ennio de Giorgi, Pisa. | February 2017 |
| Geometria Reale e Complessa, Levico Terme. | October 2016 |
| Follow-up workshop Optimal Transport, HIM, Bonn. | August 2016 |
| Reflections on Global Riemannian Geometry, Townsend, Tennessee. | August 2016 |
| Geometric Analysis on Riemannian and singular metric measure spaces, Como. | July 2016 |
| Analysis, geometry and topology of stratified spaces, CIRM, Marcheille. | June 2016 |
| Geometry and topology of open manifolds, ANR meeting, Bordeaux. | October 2015 |
| Geometric C.O.R.P, Seillac. | Septembre 2015 |
| Journée du Laboratoire Jean Leray, Nantes. | July 2015 |

Seminar talks

| | |
|--|---------------|
| Algebra and geometry seminar, Università Roma La Sapienza. | April 2022 |
| Geometry seminar, Nancy. | March 2022 |
| Geometry seminar, LAMA and IMJ, Paris. | Octobre 2020 |
| PDEs seminar, Besançon. | October 2019 |
| Geometry, analysis and dynamics, Nice. | May 2019 |
| Geometry seminar, Nantes. | November 2018 |

| | |
|---|---------------|
| Harmonic analysis seminar, Orsay. | May 2018 |
| Riemannian geometry seminar, Firenze. | December 2018 |
| Geometric analysis seminar, Pisa. | December 2018 |
| Brussels-London geometry seminar, Université Libre de Bruxelles. | November 2018 |
| DFG Graduiertenkolleg, University of Regensburg. | January 2018 |
| Geometry seminar, University of Lorraine, Nancy. | November 2017 |
| Geometry and topology seminar, University of Luxembourg. | June 2017 |
| Analysis seminar, University of Freiburg. | June 2017 |
| Geometry, Topology and Dynamics seminar, Orsay. | Janvier 2017 |
| Darboux seminar, Institut Montpellierain A. Grothendieck. | December 2016 |
| Differential geometry seminar, Mathematical Institute Münster. | November 2016 |
| Functional analysis seminar, Université de Lille. | November 2016 |
| Geometry seminar, LAMA, Paris. | October 2016 |
| Postdoc Lunch Seminar, MSRI, Berkeley. | March 2016 |
| Geometry and analysis seminar, Laboratoire Dieudonné, Nice. | December 2015 |
| Real analysis seminar, Institut de Mathématiques de Toulouse. | December 2015 |
| Spectral theory and geometry seminar, Institut Fourier, Grenoble. | November 2015 |
| Analysis and geometry seminar, IMJ, Paris. | November 2015 |
| Non linear PDEs seminar, LAGA, Paris 13. | October 2015 |
| Geometry seminar, Tokyo Institute of Technology. | July 2015 |
| Geometry and topology seminar, Université de Bretagne Occidentale, Brest. | March 2015 |
| Geometry seminar, Université de Nantes. | November 2014 |
| Workshop on Steklov eigenvalues, Université de Nantes. | October 2013 |

Periods abroad

| | |
|---|------------------------|
| Visiting B. Devyver, Israel Insitute of Technology, Haifa. | 17 - 25 June 2019 |
| Visiting R. Perales Aguilar, Centro Ennio de Giorgi, Pisa. | 3-7 December 2018 |
| Metric measure spaces and Ricci curvature, MPIM, Bonn. | 10 - 22 September 2017 |
| Visiting C. Ketterer at the University of Freiburg. | June 2017 |
| Postdoctoral Fellow at the Mathematical Sciences Research Institute | January-May 2016 |
| Visiting K. Akutagawa at Tokyo Institute of Tehcnology. | July 2015 |
| Visiting student of G. Staffilani at Massachusetts Institute of Technology. | February-May 2012 |

Teaching

Master Mini-course

| | |
|--|----------------|
| <i>Metric spaces and Gromov-Hausdorff convergence.</i> | September 2017 |
| Journées de rentrée des Masters, Fondation Mathématique Jaques Hadamard, IHÉS. | |

Université Paris Est Créteil

| | |
|--|-------------|
| Geometry and applications, first year of Master Mathematics. | 2021 – 2022 |
|--|-------------|

| | |
|--|-------------|
| Supervision of two research projects for third year students in Mathematics. | 2020 – 2021 |
| Real analysis, first year of Mathematics. | 2020 – 2022 |
| Topology, third year of Mathematics. | 2020 – 2022 |
| Fonctions of multiple variables, second year of Mathematics. | 2020 – 2022 |
| Series and Integrals, second year of Mathematics. | 2020 – 2022 |
| Analysis 3, second year of Mathematics. | 2019 – 2020 |
| Curves and surfaces, third year of Mathematics. | 2016 – 2019 |
| Mathematics for Physics 3, second year of Engineering | 2018 – 2019 |
| Mathematics for Physics 1, first year of Engineering | 2017 – 2018 |
| Analysis 2, first year of Mathematics, Physics, Informatics and Engineering. | 2016 – 2020 |
| Analysis 1, first year of Mathematics, Physics, Informatics and Engineering. | 2016 – 2018 |

Université de Nantes

| | |
|---|-------------|
| Real Analysis, first year of Mathematics, Physics, Informatics and Engineering. | 2013 – 2015 |
|---|-------------|

Languages

Italian: Mother tongue.

French: Fluent.

English: Fluent.

Spanish: Intermediate.

Other activities

In March 2014 I won the prize for the best 120-second presentation of my thesis in the Journée des Doctorants of the Ecole Doctorale de Sciences et Technologies de l'Information et Mathématiques. This manifestation collected around eighty PhD students from the Universities of Nantes, Angers, Le Mans, Saint-Nazaire and La Roche sur Yon.

In May 2015 I participated in the Semaine d'étude Maths-entreprises (week of study Mathematics-business), organised in Nantes by the GDR CNRS Mathématiques et entreprises and the Laboratoire Jean Leray.