

PERSONAL INFORMATION

Marco M. Peloso

CURRENT POSITION
(SINCE OCTOBER 1, 2007)

Full Professor of Mathematics
(Professore Ordinario di Analisi Matematica)
Dipartimento di Matematica "Federigo Enriques"
Università degli Studi di Milano

CURRENT RESPONSIBILITIES

Associate Editor, *Journal of Geometric Analysis*, since October 1, 2007
Associate Editor, *Journal of Mathematical Analysis and Applications*, since October 1, 2000

Department of Mathematics, Vice Chairman, since October 1, 2017
Department of Mathematics, Presidente Commissione Didattica, since October 1, 2018

Scientist in Charge of a Local Node, research project "PRIN 2015" *Real and Complex Manifolds: Geometry, Topology and Harmonic Analysis*, February 1, 2017– February 5, 2020.

RECENT RESPONSIBILITIES

October 1, 2017 –
September 30 2020

Department of Mathematics Vice Chairman (Vice Direttore Dipartimento di Matematica)

October 1, 2017 –
September 30 2020

Presidente Commissione Didattica del Dipartimento di Matematica

November 1, 2010 –
July 31, 2013

Head of the Graduate Program in Mathematics (Coordinatore Collegio Dottorato in Matematica)
Università degli Studi di Milano

October 1, 2008 – July 31, 2013

Presidente Commissione Didattica del Dipartimento di Matematica

October 1, 2008 –
September 30 2011

Department of Mathematics Vice Chairman (Vice Direttore Dipartimento di Matematica)

June 1, 2009 – May 31, 2011

Member of the University Postdoctoral Grants Committee (Membro Commissione di Garanzia)
Università degli Studi di Milano

EDUCATION

August 22, 1990 Ph.D. in Mathematics
Washington University in St. Louis
(advisor Prof. Steven Krantz)

July 17, 1984 Laurea in Matematica
Università degli Studi di Milano
(relatore Prof. Leonede De Michele)

ACADEMIC POSITIONS HELD

August 15, 2012 – May 15, 2013 Visiting Professor
Department of Mathematical Sciences,
University of Arkansas, Fayetteville

January 2 – May 20, 2006 Visiting Scholar
Department of Mathematics,
Washington University in St. Louis

August 15 – December 15, 2005 Visiting Professor,
Department of Mathematics
University of Missouri, Columbia

December 27, 2002 –
September 30, 2007 Full Professor,
Dipartimento di Matematica
Politecnico di Torino

July 15 – August 31, 2001 Professor,
S.M.I., Scuola Matematica Interuniversitaria,
Perugia

November 1, 1998 –
December 26, 2002 Associate Professor
Dipartimento di Matematica
Politecnico di Torino

November 14, 1991 –
October 31, 1998 Ricamatore Universitario
Dipartimento di Matematica
Politecnico di Torino

June 1 – November 13, 1991 Postdoc (Assegnista) INdAM
Dipartimento di Matematica
Politecnico di Torino

January 2 – May 31, 1991 Visiting Scholar
Mittag-Leffler Institute
Stockholm

August 15 – December 15, 1991 Visiting Instructor
Department of Mathematics
Michigan State University, East Lansing

NATIONAL AND EUROPEAN
GRANTS

- February 1, 2016 – February 5, 2020 PRIN 2015 Scientist in Charge of a Local Node, research project *Real and Complex Variables: Geometry, Topology and Harmonic Analysis*
- February 1, 2013 – January 31, 2016 PRIN 2010-11 Scientist in Charge of a Local Node, research project *Varietà reali e complesse: geometria, topologia e analisi armonica*
- 2009 Principal Investigator, PUR grant of Università degli Studi di Milano
- January-May 2006 Miller Scholar, University of Missouri, Columbia, USA
- July 15, 2002 – July 15 2006 Scientist in Charge for the Italian node of the IHP research project of the European Community *Harmonic Analysis and Related Problems HARP*, Contract Number RNT2-2001-00315
- November 1, 2000 – August 31, 2002 Scientist in Charge for the Italian node of the TMR research project of the European Community *Harmonic Analysis*, Contract Number FMRX-CT97-0159
- June-November 1991 Grant INdAM Postdoct, 12 months

RECENT PUBLICATIONS

- 2021 1. (with S. G. Krantz, and D. Spector) Some remarks on L1 embeddings in the subelliptic setting. *Nonlinear Anal.* 202 (2021), 11 pp.
- 2020 2. (with A. Monguzzi) (Ir-)Regularity of canonical projection operators on some weakly pseudoconvex domains, *Lecture Notes of Seminario Interdisciplinare di Matematica Vol. 15(2020)*, pp. 55 – 73.
- 3. (with Al. Monguzzi, and M. Salvatori) Fractional Paley–Wiener and Bernstein spaces, *Collectanea Mathematica (2020)* <https://doi.org/10.1007/s13348-020-00303-4>
- 4. (with T. Bruno, and M. Vallarino) Besov and Triebel-Lizorkin spaces on Lie groups1. *Math. Ann.* 377 (2020), no. 1-2, 335–377.
- 5. (with A. Monguzzi, and M. Salvatori) Fractional Laplacian, Homogeneous Sobolev spaces and their realizations, *Annali di Matematica Pura ed Applicata* [\(4\) 199 \(2020\), no. 6](#), 2243–2261.
- 2019 6. (with F. Colombo, and S. Pinton) The structure of the fractional powers of the noncommutative Fourier law, *Math. Meth. in the Appl. Sc.* [42 \(2019\), no. 18](#), 6259–6276.
- 7. (with N. Arcozzi, A. Monguzzi, and M. Salvatori) Paley–Wiener theorems on the Siegel upper half-space, *Jour. of Fourier Anal. and Appl.*, 25 (2019) 25 (2019) 1958–1986.
- 8. (with S. Krantz and C. Stoppato) Completeness on the worm domain and the Muntz–Szasz problem for the Bergman space, *Math. Res. Let.* 26 (2019) 231–251.
- 9. (with F. Colombo, S. Mongodi, and S. Pinton) Fractional powers of the non-commutative Fourier’s law by the S-spectrum approach, *Math. Meth. in the Appl. Sc.* 42 (2019) 1662–1686.
- 10. (with T. Bruno, A. Tabacco, and M. Vallarino) Sobolev spaces on Lie groups: Embedding theorems and algebra properties, *Jour. Funct. Anal.* 276 (2019) 3014–3050.
- 2018 11. (with M. Vallarino) Sobolev algebras on nonunimodular Lie groups, *Calc. Var. Partial Differential Equations* 57 (2018), no. 6, 33 pages.
- 12. (with S. Krantz and B. Liu) Geometric Analysis on the Diederich–Fornæss Index *J. Korean Math. Soc.* 55 (2018), no. 4, 897:921.
- 2017 13. (with A. Monguzzi) Sharp estimates for the Szegő projection on the distinguished boundary of model worm domains *Integral Equations Operator Theory* 89 (2017), no. 3, 315-344.
- 14. (with E. Barletta and S. Dragomir) Worm domains and Fefferman space-time singularities, *J. Geom. Phys.* 120 (2017), 142-168.
- 15. (with M. Salvatori) Functions of exponential growth in a half-plane, sets of uniqueness, and

- the Mu'ntz-Sz'asz problem for the Bergman space, *J. Geom. Anal.* 27 (2017), no. 3, 2570-2599.
- 2016 16. (with A. Monguzzi) Regularity of the Szeg'ö projection on model worm domains, *Complex Var. Elliptic Equ.* 62 (2017), no. 9, 1287-1313.
17. (with M. Salvatori) On some spaces of holomorphic functions of exponential growth on a half-plane, *Concr. Oper.* 3 (2016), 52–67.
- 2015 18. (with S. Krantz and C. Stoppato) Bergman kernel and projection on the unbounded worm domain *Ann. Sc. Nor. Sup. Pisa* (5) 16 (2016), no. 4, 11531183.
19. (with D. Barrett and D. Ehsani) Regularity of projection operators attached to worm domains, preprint, *Doc. Math.* 20 (2015), 1207-1225.
20. (with P. Harrington and A. Raich) Regularity equivalence of the Szeg'ö projection and the complex Green operator, *Proc. Amer. Math. Soc.* 143 (2015), no. 1, 353–367.
21. (with D. Mu'ler and F. Ricci) Analysis of the Hodge Laplacian on the Heisenberg group, *Memoirs Amer. Math. Soc.* 233 (2015), no. 1095.
22. (with V. Casarino) Strichartz estimates for the Schro'ödinger equation for the sublaplacian on complex spheres, *Trans. Amer. Math. Soc.* 367 (2015), no. 4, 2631–2664.

DIRECTIONS OF RESEARCH (PH. D. / POSTDOCS)

March 1, 2020-current	Direction of a 2-year postdoctoral research fellowship <i>Harmonic Analysis on Nilpotent Groups</i> (grant holder Dr. Mattia Calzi)
November 1, 2018-current	Ph. D. thesis advisor of Carlo Bellavita
November 1, 2018-current	Ph. D. thesis co-advisor of Marco Del Pra
November 1, 2016–September 2019	Direction of a 4-year postdoctoral research fellowship <i>Analytical and Geometrical Methods for Differential Equations and Quantum Field Theory</i> (grant holder Dr. Davide Fermi)
November 2011 – October 2015	Direction of a 4-year postdoctoral research fellowship <i>Analysis of conformally invariant differential operators on CR and Riemannian manifolds</i> (grant holder Dr. Paolo Mastrolia).
November 2011 – April 2015	Ph. D. thesis advisor of Alessandro Monguzzi, title of Dissertation <i>On the regularity of singular integral operators on complex domains</i>
November 2011 – October 2014	Ph. D. thesis advisor of Marco Marchi, title of the dissertation <i>Rumin's Complex and Intrinsic Graphs in Carnot Groups</i>
September 2011 – August 2013	Direction of a 2-year postdoctoral research <i>Analysis and Geometry in Several Complex Variables</i> (grant holder Dr. Caterina Stoppato)
September 1999 – August 2001	Direction of a 2-year postdoctoral research on <i>Analysis of integral operators of convolution type</i> (grant holder Dr. Silvia Secco)
January -- June 2002	Direction of a 6-month postdoctoral research <i>Boundary of holomorphic functions on convex domain of finite type in C^n</i> (grant holder Dr. Hercule Valencourt)
January 2004 -- June 2006	Direction of a 16-month postdoctoral research <i>Extensions of the classical Paley-Wiener theorem to symmetric spaces</i> (grant holder Dr. Nils Andersen).
January 03 -- March 2007	Ph. D. thesis advisor of Donato A. Ciampa, title of the dissertation <i>On the regularity of the Kohn-Laplacian on CR manifolds</i>

PH. D. GRADUATION COMMITTEES

- 2015 Alessio Martini, Scuola Normale Superiore Pisa
- 2010 Maria Rosaria Tupputi, Università di Bologna
- 2015 Gian Maria Dall'Ara, Scuola Normale Superiore Pisa
- 2019 Matteo Levi, Università di Bologna
- 2014 Wendolin Damian, Universidad de Seville
- 2017 Francesco Silverio, Università della Basilicata

INVITED LECTURES

- September 16-20, 2019 Conference *Second joint IMU-INdAM Conference in Analysis*, Napoli, Italy
- July 22-26, 2019 Conference IWOTA 2019 *International Workshop Operator Theory and Applications*, Lisbon
- November 4, 2018 AMS Meeting, Special Session *Several Complex Variables and Partial Differential Equations*, Fayetteville, Arkansas
- October 1 – 4, 2018 CIRM Conference *Complex Approximation and Bounded Holomorphic Functions*, Levico Terme
- September 17 – 20, 2018 *Joint meeting Italian and Polish Mathematicians, UMI-SIMAI-PTM, Session on Harmonic analysis*, Wroclaw, Poland
- June 25 – 29, 2018 INdAM Conference *Geometric Aspects of Harmonic Analysis*, Cortona, Italy
- June 11 – 14, 2018 ACOTCA (*Advanced Courses in Operator Theory and Complex Analysis*), Bologna, Italy
- February 2 – 4, 2018 Workshop *Real and Complex Manifolds: Geometry, Topology and Harmonic Analysis*, Pisa, Italy
- November 6 – 10, 2017 Workshop *Analysis and geometry on pseudohermitian manifolds*, American Institute of Mathematics, San Jose, USA
- September 12 – 16, 2016 INdAM Workshop *Complex Function Theory, Its Generalization and Applications*, Rome, Italy
- June 9 – 11, 2015 Conference ACOTCA (*Advanced Courses in Operator Theory and Complex Analysis*), Bologna
- March 3 – 6, 2015 Workshop *Real and Complex Manifolds: Geometry, Topology and Harmonic Analysis*, Pisa, Italy
- February 2015 Conference *Real Sociedad Matematica Espanola*, Granada, Spain
- July 9-13, 2014 Conference IWOTA, *International Workshop Operator Theory and Applications*, Amsterdam, Holland
- June 2014 *Workshop in Harmonic Analysis*, Kiel, Germany
- June 2014 Conference *First Joint Meeting of Italian and Spanish Mathematical Societies* Bilbao, Spain
- April 2014 Conference *Harmonic Analysis and Applications*, Pisa, Italy
- October 2013 AMS Meeting, Special Session *Several Complex Variables*, Philadelphia
- April 2012 University of Missouri, Columbia, USA
- April 2010 Conference *Euclidean Harmonic Analysis, Nilpotent Lie Groups and PDEs*, Pisa, Italy
- June 2006 Conference *Meeting on Subelliptic PDE's and Applications to Geometry and Finance* Cortona Italy
- June 2006 Conference *Analytic Function Spaces*, Joensuu, Finland.
- May 2006 *Convegno nazionale di Analisi Armonica*, Cortona, Italy
- April 2006 University of Wisconsin, Madison, USA
- March 2006 University of Arkansas, Fayetteville, USA
- February 2006 University of Toledo, Ohio, USA
- October 2005 Washington University in St. Louis, USA
- April 2005 *Convegno nazionale di Analisi Armonica*, Bologna, Italy
- June 2004 *7th International Conference on Harmonic Analysis and Partial Differential Equations*, El Escorial, Spain
- June 2003 *Convegno Nazionale di Analisi Armonica*, Padova, Italy
- March 2003 Washington University in St. Louis, USA
- February 2003 Università della Basilicata, Potenza, Italy
- December 10-15 2001 *Colloquium Analysis on complex symmetric domains*, Yaoundé, Cameroun
- September 2001 Université de Orleans, France
- June 2001 Conference *Harmonic Analysis on complex homogeneous domains and Lie groups*, Roma, Italy
- June 2001 Università di Roma 2 "Tor Vergata", Rome, Italy
- August 2000 Conference *Biholomorphic mappings*, American Institute of Mathematics, Palo Alto, USA
- May 2000 Christian Albrechts Universität Kiel, Germany
- May 2000 Wroclaw University, Wroclaw, Poland
- February 2000 Université de Orleans, France
- September 1999 Washington University in St. Louis, USA
- July 1999 Meeting *Real Analysis*, Oberwolfach, Germany
- June 1999 Conference *Harmonic analysis on complex homogenous manifolds*, Zakopane, Poland
- April 1999 Université de Orleans, France

- March 1999 Conference *Complex Journees du Sud*, Poitiers, France
- November-January 1997/98 Università di Genova, Ph. D. Lectures
- November 1997 Université de Orleans, France
- July 1997 Workshop *Harmonic Analysis*, Mathematical Sciences Research Institute, Berkeley, USA
- March 1997 *Convegno nazionale di Analisi Armonica*, Santa Margherita, Italy
- November 1996 Wroclaw University, Poland
- October 1996 Université de Orleans, France
- January-February 1996 Department of Mathematics, Wroclaw University, Ph. D. Lectures, Poland
- November 1995 Workshop *Several Complex Variables and PDE's*, Mathematical Sciences Research Institute, Berkeley, USA
- October 1995 Christian Albrechts Universität Kiel, Germany
- September 1995 *XVI Congresso dell'Unione Matematica Italiana*, Padova, Italy
- June 1995 *Convegno nazionale di Analisi Armonica*, Alghero, Italy
- March 1995 *Instructional Conference in Several Complex Variables*, University of Edinburgh, Scotland
- December 1994 Conference *Harmonic Analysis*, IGIUCCIA Palermo, Italy
- October 1993 *Regional Conference of the American Mathematical Society*, College Station, USA
- August 1993 Washington University in St. Louis, USA
- July 1993 University of Alabama, Tuscaloosa, USA
- May 1993 Conference *Harmonic Analysis and PDE's*, Universidad Autonoma of Madrid, Spain
- May 1992 University of Alabama, Tuscaloosa, USA
- October 1991 *Regional Conference of the American Mathematical Society*, North Dakota, USA
- December 1990 Politecnico di Torino, Italy
- November 1990 University of Michigan, Ann Arbor, Michigan, USA
- November 1990 *Regional Conference of the American Mathematical Society*, Denton, USA
- May 1990 *Convegno nazionale di Analisi Armonica*, Como, Italy
- May 1990 Conference *Function spaces*, Edwardsville, Illinois, USA
- March 1990 University of Kansas, Lawrence, Kansas, USA
- April 1985 *Convegno nazionale di Analisi Armonica*, Selva di Fasano, Bari, Italy

CO-ORGANIZED
CONFERENCES

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|--------------------------|--|
| May 24 – 28, 2020 | 1. Conference <i>CR Geometry and PDE's VIII</i> , Levico Terme (cancellata causa Codiv-19) |
| September 23 -- 29, 2019 | 2. INdAM Workshop (<i>New Trends in</i>) <i>Complex and Fourier Analysis, and Operator Theory</i> , Rome |
| May 29 -- June 3, 2018 | 3. CIRM Conference <i>CR Geometry and PDE's VIII</i> , Levico Terme |
| May 29-June 2, 2017 | 4. Conference <i>Hilbert Function Spaces 2017</i> , Gargnano |
| May 30 -- June 3, 2016 | 5. XXXVI Convegno Nazionale di Analisi Armonica, Gargnano |
| May 20 – 24, 2013 | 6. Conference <i>Hilbert Function Spaces</i> , Gargnano |
| June 7 – 11, 2010 | 7. XXX Convegno Nazionale di Analisi Armonica, Gargnano |
| May 30- June 4, 2006 | 8. CIRM Conference <i>CR Geometry and PDE's II</i> , Levico Terme |
| September 1-15, 2003 | 9. Summer School in Harmonic Analysis, Centro Ennio De Giorgi, Pisa. |
| June 7 --10, 1999 | 10. XX Convegno Nazionale di Analisi Armonica, Aosta |
| April 28 -- May 3 1997 | 11. <i>Harmonic Analysis in Varenna</i> , European Union HCM. Fourier Analysis Network Varenna |
| June 4 --7, 1994 | 12. XIV Convegno Nazionale di Analisi Armonica, Torino |