CURRICULUM VITAE

DANIELE BARTOLUCCI

Laurea in Physics: (110/110) "Università di Roma "La Sapienza"", 31.05.1996.
Ph.D. in Mathematics, "Università Statale degli Studi di Milano", 19.12.2000.

PostDoc Positions
2001-2002: I.N.D.A.M. "SENIOR" grant.
Department of Mathematics, University of Rome "Tor Vergata".
Winner (not used) of the C.N.R. grant (n. 201.21 del 10.05.2001), Functional Analysis and Applications;
2002-2003, 2003-2004: Post Doc Research grant:
Department of Mathematics, University of Rome "La Sapienza".
2004-2005, 2005-2006: Post Doc Research grant:
Department of Mathematics, University "Roma Tre".
2006-2007: Post Doc Research grant:
Department of Mathematics, University of Rome "Tor Vergata".
2007/2008: Research grant:
Department of Mathematics, University of Rome "La Sapienza".

Academic Positions
2008-2015 "Ricercatore Universitario"
Department of Mathematics, University of Rome "Tor Vergata".
2015-present "Professore Associato"
Department of Mathematics, University of Rome "Tor Vergata".

A. S. N.: National Academic Qualification (2012) as "Professore Fascia II, 01/A3", (30.12.2013).

A. S. N.: National Academic Qualification (2016) as "Professore Fascia I, 01/A3",
(28.03.2017-28.03.2023).

A. S. N. data 01/A3 (updated on 11.12.2021)
numb. art. 10 years: WoS 22, Scopus 24; Cit. 15 years: Wos 330, Scopus 386;
H-index 15 years: Wos 10, Scopus 12.
Thresholds for applicants "Fascia I": 10, 84, 6. Thresholds for members of the A.S.N. board: 15, 167, 8.

Research grants foreign institutions
02/2006 - 03/2006: 1-month research grant, RTN Project: "Front Singularities ".
Lab. J.-L. Lions, Universitè P. et M. Curie, Paris VI; (invited by Prof. H. Brezis);

Research grants/Research Projects (P.I.)
Research Grant "Finanziamento delle attività di ricerca di base" (F.F.A.B.R.), M.I.U.R. - A.N.V.U.R. 2017;
Principal investigator (P.I.) of the research project "Semilinear Elliptic Equations and Applications" (S.E.E.A.) ("Mission: Sustainability") Grant Università di Roma "Tor Vergata" (2018). Members of the project: Proff. T. D'Aprile, R. Molle, A. Jevnikar.

Research Projects (Membership)

Member of the PRIN projects 2002, 2004, 2006: P.I. Prof. A. Ambrosetti.

Member of the FIRB-IDEAS project 2008: P.I. Prof. A. Malchiodi.

Member of the PRIN project 2009: P.I. Prof. A. Malchiodi.

Member of the PRIN project 2012, ERC PE1_11: P.I. Prof. S. Terracini.

Member of the PRIN projects 2015, 2022 ERC PE1_11: P.I. Prof. A. Malchiodi.

- Member of the project "Nonlinear Differential Problems and Their Applications", Grant: Consolidate the Foundations 2015 (Università degli Studi di Roma "Tor Vergata"): P.I.: Prof. G. Tarantello.

- Contributor of the N.S.F. Award n.1601885 "Qualitative Studies of Some Partial Differential Equations and Systems", P.I.: Prof. Changfeng Gui.

- Member of the project "Variational Approaches to PDE's", Grant: Beyond Borders 2019 (Università degli Studi di Roma "Tor Vergata"): P.I.: Prof. G. Tarantello.

- Contributor of the N.S.F. Award n.1901914 "Qualitative Study of the Mean Field Equation and Allen-Cahn Equation", P.I.: Prof. Changfeng Gui.

Advanced Lectures (invited by Proff. C. Gui and X. Tang) in occasion of the:
"International Workshop on Mean Field Equations and Systems",
School of Mathematics, Central South University, Changsha, China, 25-29/06/2018:
Titolo: *Mean field equations, statistical physics and bifurcation analysis.*

Ph.D. Course (organized with Prof G. Tarantello)
in collaboration with Proff. A. Jevnikar, R. Lopez-Soriano, D. Ruiz,
University of Rome "Tor Vergata", Department of Mathematics, 08/11/2021-02/12/2021.
Titolo: *An introduction to Liouville Equations with Applications.*

Research interests
- Existence, uniqueness, non degeneracy, blow up analysis and local uniqueness of solutions of Liouville and mean field type equations with or without singular data.
- Local and global bifurcation diagram and qualitative behavior of unbounded branches of solutions of Gel'fand and mean field type problems.
- Applications to the prescribing Gaussian curvature problem on 2d-manifolds with conical singularities, the statistical mechanics of 2d turbulent Euler flows and selfdual vortices in Gauge field theories.
- Existence, uniqueness, non degeneracy and bifurcation diagram of free boundary problems in plasma physics.

Citations (Mathscinet February 17 2024) cited 834 times by 233 authors.

Referee for several journals among which: Comm. Math. Phys., Jour. Diff. Geom., Adv. in Math., Trans. A.M.S., Analysis & P.D.E., J.E.M.S., Math. Ann., Calc. Var. & P.D.E., Ann. Sc. Norm. Sup. Pisa, Jour. Math. Pures Appl., Jour. Diff. Eq., Jour. Geom. An., Int. Math. Res. Notices, Ann. I. H. Poincaré AN, Jour. Funct. An., Indiana U.M.J., Nonlinearity, Nonlinear An., Comm. Cont. Math., Proc. A.M.S., Comm. Math. Helv., P.N.D.E.A., Man. Math., Asympt. An., Jour. Math. Phys., Disc. Cont. Dyn. Syst., Adv. Calc. Var., Ann. Glob. An. Geom., Jour. P.D.E., No.D.E.A., Jour. Geom. Phys., Mod. Phys. Lett. A;

Referee (invited by Prof. G. Dunne) for the M.R. section of the A.M.S.;

Referee for the DP-COFUND-2015 INdAM Doctoral Programme in Mathematics and/or Applications cofunded by Marie Skłodowska-Curie Actions.

Ph.D. Students

Dr. Paolo Cosentino (A.A. 2021/2022-present)

Postdoc mentoring

Daniele Castorina (A.A. 2013-2014), Francesca De Marchis (A.A. 2013-2015),
Aleks Jevnikar (A.A. 2016-2017)

Congress (Organizer)

- Member of the organizing committee of the international Congress: "Variational Methods in Analysis,
Geometry and Physics", Scuola Normale Superiore Pisa, February 12-16 2018.

Invited visiting periods.

• 01/03/2006 - 05/03/2006, Université F. Rabelais di Tours, Laboratoire M.P.T.,
(invited by Prof. A.C. Ponce).
• 26/03/2009 - 01/04/2009, Taida Institute of Mathematical Sciences, National Taiwan University, Taipei,
(invited by Prof. C.S. Lin).
• 14/09/2009 - 17/09/2009, S.I.S.S.A., Trieste, (invited by Prof. A. Malchiodi).
• 10/01/2011 - 14/01/2011 Taida Institute of Mathematical Sciences, National Taiwan University, Taipei,
(invited by Prof. C.S. Lin).
• Mathematisches Institut, Universität Basel,
10/12/2013 - 13/12/2013, (invited by Prof. L. Martinazzi).
• Scuola Normale Superiore di pisa, Pisa,
23/05/2017 - 26/05/2017, (invited by Prof. A. Malchiodi).
• Departamento de Análisis Matemático, Universidad de Granada,
29/06/2019 - 05/07/2019, (invited by Prof. D. Ruiz).

Publications

(1) D. Bartolucci, G. Tarantello," *The Liouville equation with singular data: a concentration-compactness principle via a local representation formula*", **J. Differential Equations 185** (2002), 161-180.

(2) D. Bartolucci, G. Tarantello," *Liouville type equations with singular data and their applications to periodic multivortices for the Electroweak Theory*", **Comm. Math. Phys. 229** (2002), 3-47.

(3) D. Bartolucci, "*A compactness result for periodic multivortices in the Electroweak Theory*",
Nonlinear Analysis: T.M.A. 53 (2003), 277-297.

(4) D. Bartolucci, "*A priori estimates for an elliptic equation with exponential nonlinearity*",
Asymptotic Analysis 35 (2003), 325-347.

(5) D. Bartolucci, C.C. Chen, C.S. Lin, G.Tarantello, "*Profile of Blow-up Solutions to Mean Field Equations with Singular Data*", **Comm. Partial Differential Equations 29** (2004), 1241-1265.

(6) D. Bartolucci, L. Orsina, "*Uniformly Elliptic Liouville Type Equations: Concentration Compactness and a Priori Estimates*", **Comm. on Pure and Applied Analysis 4** (2005), 499-522.

(7) D. Bartolucci, F. Leoni, L. Orsina, A.C. Ponce, "*Semilinear equations with exponential nonlinearity and measure data*", **Ann. I. H. Poincaré AN 22** (2005), 799-815.

(8) D. Bartolucci, E. Montefusco, "*On the Shape of Blow up Solutions to a Mean Field Equation*",
Nonlinearity 19 (2006), 611-631.

(9) D. Bartolucci, F. Leoni, L. Orsina, "*Uniform Estimates and Blow-up Analysis for the Emden Exponential Equation in Any Dimension*", **Comm. Contemp. Math. 9** (2007), 1-20.

(10) D. Bartolucci, A. Pistoia, "*Existence and qualitative properties of concentrating solutions for the sinh-Poisson equation,*" **IMA Jour. Appl. Math. 72** (2007), 706-729.

(11) D. Bartolucci, E. Montefusco, "*Blow up analysis, existence and qualitative properties of solutions for the two dimensional Emden-Fowler equation with singular potential*",
Math. Meth. Appl. Sci. 30 (2007), 2309-2327.

(12) D. Bartolucci, L. Orsina, "*Harnack type inequalities and quantization for the Uniformly Elliptic Liouville Equation*", **Asymptotic Analysis 58** (2008), 157-169.

(13) D. Bartolucci, C.S. Lin, "*Uniqueness results for mean field equations with singular data*",
Comm. Partial Differential Equations 34 (2009), 676-702.

(14) D. Bartolucci, "*On the classification of N-points concentrating solutions for mean field equations and the critical set of the N-vortex singular Hamiltonian on the unit disk*",
Acta Appl. Math. 110 (2010), 1-22.

(15) D. Bartolucci, "*Uniqueness and bifurcation for semilinear elliptic equations on closed surfaces*",
Calc. Var. & P.D.E. 38 (2010), 503-519.

(16) D. Bartolucci, "*A Sup + C Inf inequality for the equation $-\Delta u = \frac{V}{|x|^{2\alpha}} e^u$*",
Proc. Royal Soc. Edinb. A 140 (2010), 1119-1139.

(17) D. Bartolucci, L. Orsina, "*Uniformly Elliptic Liouville Type Equations Part II: Pointwise Estimates and Location of Blow Up Points*", **Adv. Nonlinear Studies 10** (2010), 867-894.

(18) D. Bartolucci, "*A Sup + C Inf inequality for Liouville type equations with singular potentials*",
Math. Nachr. 284 (2011), 1639-1651.

(19) D. Bartolucci, C.S. Lin, G. Tarantello, "*Uniqueness and symmetry results for solutions of a mean field equation on $\mathbb{S}^2$ via a new bubbling phenomenon*", **Comm. Pure Appl. Math. 64** (2011), 1677-1730.

(20) D. Bartolucci, F. De Marchis, A. Malchiodi, "*Supercritical conformal metrics on surfaces with conical singularities*", **Int. Math. Res. Not. 24** (2011), 5625-5643.

(21) D. Bartolucci, "*A Sup + Inf inequality for Liouville type equations with weights*",
Jour. d'Analyse Mathematique 117 (2012), 29-46.

(22) D. Bartolucci, C.S. Lin, "*Sharp existence results for mean field equations with singular data*",
J. Differential Equations 252 (2012), 4115-4137.

(23) D. Bartolucci, F. De Marchis, "*On the Ambjorn-Olesen electroweak condensates*",
Jour. Math. Phys. 53 (2012), 073704 (15 p.).

(24) D. Bartolucci, "*Stable and unstable equilibria of uniformly rotating self-gravitating cylinders*",
Int. Jour. Mod. Phys. D 21 (2012), 1250087 (22 p.).

(25) D. Bartolucci, "*A sup×inf inequality for conformal metrics on Riemann surfaces with conical singularities*", **Jour. Math. An. Appl. 403** (2013), 571-579.

(26) D. Bartolucci, "*On the best pinching constant of conformal metrics on $\mathbb{S}^2$ with one and two conical singularities*", **Jour. Geom. Analysis 23** (2013), 855-877.

(27) D. Bartolucci, A. Malchiodi, "*An improved geometric inequality via vanishing moments, with applications to singular Liouville equations*",
Comm. Math. Phys. 322 (2013), 415-452.

(28) D. Bartolucci, C.S. Lin, "*Existence and uniqueness for Mean Field Equations on multiply connected domains at the critical parameter*", **Math. Ann. 359** (2014), 1-44.

(29) D. Bartolucci, Y. Lee, C.S. Lin, M. Onodera,"*Asymptotic analysis of solutions to a gauged O(3) sigma model*", **Ann. I. H. Poincaré AN 32** (2015), 651-685.

(30) D. Bartolucci, F. De Marchis, "*Supercritical Mean Field Equations on convex domains and the Onsager's statistical description of two-dimensional turbulence*",
Arch. Ration. Mech. An. 217/2 (2015), 525-570.

(31) D. Bartolucci, "*Existence and non existence results for supercritical systems of Liouville-type equations on simply connected domains*", **Calc. Var. & P.D.E. 53**/1 (2015), 317-348.

(32) D. Bartolucci, D. Castorina, "*A global existence result for a Keller-Segel type system with supercritical initial data*", **Jour. Ell. Par. Eq. 1** (2015), 243-262.

(33) D. Bartolucci, D. Castorina, "*Self gravitating cosmic strings and the Alexandrov's inequality for Liouville-type equations*", **Comm. Contemp. Math. 18** (2016), 1550068 (26 p.).

(34) D. Bartolucci, G. Tarantello, "*Asymptotic blow-up analysis for singular Liouville type equations with applications.*", **J. Differential Equations 262** (2017), 3887-3931.

(35) D. Bartolucci, A. Jevnikar, Y. Lee, W. Yang, "*Non degeneracy, Mean Field Equations and the Onsager theory of 2D turbulence*", **Arch. Ration. Mech. An. 230** (2018), 397-426.

(36) D. Bartolucci, D. Castorina, "*On a singular Liouville-type equation and the Alexandrov isoperimetric inequality*", **Ann. Scuola Norm. Sup. Pisa Cl. Sci. XIX** (2019), 1-30.

(37) D. Bartolucci, "*Global bifurcation analysis of mean field equations and the Onsager microcanonical description of two-dimensional turbulence*", **Calc. Var. & P.D.E. 58** (2019), 58:18.

(38) D. Bartolucci, A. Jevnikar, C. S. Lin, "*Non-degeneracy and uniqueness of solutions to singular mean field equations on bounded domains*", **J. Differential Equations 266** (2019), 716-741.

(39) D. Bartolucci, A. Jevnikar, Y. Lee, W. Yang, "*Uniqueness of bubbling solutions of mean field equations*", **Jour. Math. Pures Appl. 123** (2019), 78-126.

(40) D. Bartolucci, C. Gui, A. Jevnikar, A. Moradifam, "*A singular Sphere Covering Inequality: uniqueness and symmetry of solutions to singular Liouville-type equations*", **Math. Ann. 374** (2019).

(41) D. Bartolucci, A. Jevnikar, Y. Lee, W. Yang, "*Local uniqueness of m-bubbling sequences for the Gel'fand equation*", **Comm. Partial Differential Equations 44** (2019), 447-466.

(42) D. Bartolucci, C. Gui, A. Jevnikar, Y. Hu, W. Yang,"*Mean field equations on tori: existence and uniqueness of evenly symmetric blow-up solutions*", **D.C.D.S. 40** (2020), 3093-3116.

(43) D. Bartolucci, G. Wolansky, "*Maximal entropy solutions under prescribed mass and energy*",
J. Differential Equations 268 (2020), 6646-6665.

(44) D. Bartolucci, A. Jevnikar, Y. Lee, W. Yang, "*Local uniqueness and non-degeneracy of blow up solutions of mean field equations with singular data*",
J. Differential Equations 269 (2020), 2057-2090.

(45) D. Bartolucci, A. Jevnikar, "*On the global bifurcation diagram of the Gel'fand problem*",
Analysis & P.D.E. 14 (2021), 2409-2426.

(46) D. Bartolucci, A. Jevnikar, "*New universal estimates for free boundary problems arising in plasma physics*", **Proc. A.M.S. 150** (2022), 673-686.

(47) D. Bartolucci, A. Malchiodi, "*Mean field equations and domains of first kind*", **Rev. Mat. Iberoam.**, to appear.

(48) D. Bartolucci, A. Jevnikar, "*On the uniqueness and monotonicity of solutions of free boundary problems*", **J. Differential Equations 306** (2022), 152-158.

(49) D. Bartolucci, Y. Hu, A. Jevnikar, W. Yang "*Generic properties of free boundary problems in plasma physics*", **Nonlinearity 35** (2022), 411-444.

(50) D. Bartolucci, Y. Hu, A. Jevnikar, W. Yang, "*Generic properties of the Rabinowitz unbounded continuum*", **Advanced Nonlinear Studies**, 2023; 23: 20220062.

(51) D. Bartolucci, A. Jevnikar, R. Wu, "*A Courant nodal domain theorem for linearized mean field type equations*", **Comm. Pure Appl. An. 22** (2023), 2744-2759.

(52) D. Bartolucci, A. Jevnikar, J. Jin, C.S. Lin, S. Liu, "*Non-degeneracy and uniqueness of solutions to general singular Toda systems on bounded domains*", **Jour. Math. An. Appl. 525** (2023), 127132.

(53) D. Bartolucci, A. Jevnikar, R. Wu, "*On the global bifurcation diagram of the equation $-\Delta u = |x|^{2\alpha}e^u$ in dimension two*", **Diff. Int. Eqs. 37** (2024), 425-442.

(54) D. Bartolucci, "*The Gauss equation on Surfaces of Bounded Integral Curvature*", to appear on **Pure and Applied Functional Analysis**, Special issue on Analysis, Geometry and PDE dedicated to the memory of Prof. Y. Reshetnyak.

(55) D. Bartolucci, P. Cosentino, A. Jevnikar, C.S. Lin, "*On the first eigenvalue of Liouville-type problems*", arXiv:2306.10256.

(56) D. Bartolucci, W. Yang, L. Zhang, "*Asymptotic Analysis and Uniqueness of blowup solutions of non-quantized singular mean field equations*", arXiv:2401.12057.

(57) D. Bartolucci, A. Jevnikar, R. Wu, "*Sharp estimates, uniqueness and spikes condensation for superlinear free boundary problems arising in plasma physics*", preprint 2024.

(58) D. Bartolucci, A. Jevnikar, Y. Hu, J. Wei, W. Yang, "*Uniqueness and monotonicity of solutions of a Lane-Emden system of free boundary type*", forthcoming.

Invited talks. 41 invited talks, part of which as seminars at the following Universities: Università di Roma "Tor Vergata", Università di Roma "Sapienza", "Università di Roma Tre", "Università degli Studi di Milano Bicocca", Università di Padova, Universitè P. et M. Curie Paris VI, Universitè F. Rabelais di Tours, Taida Institute of Mathematical Sciences (Taipei), S.I.S.S.A. (Trieste), Sc. Norm. Sup. Pisa, Universität Basel, Universidad Granada, Hong-Kong University of Science and Technology and Beijing Normal University,

and 16 of them as invited speaker at the following international conferences/workshops:

1) *On Uniformly Elliptic Liouville type Equations.* Conference "Infinite energy solutions of partial differential equations and related topics", S. N. S. (Cortona) May 30 2005 - June 03 2005.

2) *Equazioni di campo medio con dati Delta di Dirac: un risultato di unicità*, XVIIIº Convegno Nazionale di Calcolo delle Variazioni, Levico-Terme February 11-15 2008.

3) *Sharp existence - non existence results for a critical mean field equation with singular data.* Conference "Differential and topological problems in modern theoretical physics", S.I.S.S.A., Trieste, April 28 2010.

4) *On the best pinching constant of conformal metrics with one and two conical singularities on $\mathbb{S}^2$.* Conference "Nonlinear Phenomena: A View From Mathematics And Physics", T.I.M.S., National Taiwan University, January 10-14 2011.

5) *On the best pinching constant of conformal metrics with one and two conical singularities on $\mathbb{S}^2$.* Conference "Variational and perturbative methods for nonlinear differential equations", Venezia, January 20-22 2011.

6) *Improved Moser-Trudinger-type inequalities with weights and singular Liouville equations.*
Conference: "New Perspectives in Nonlinear PDE's", Rome, September 24-28 2012.

7) *On the best pinching constant of conformal metrics with one and two conical singularities on $\mathbb{S}^2$.*
Workshop: "The joy of Geometry", E.P.F.L. Lausanne, December 5-6 2013.

8) *Singular Liouville equations and improved Moser-Trudinger-type inequalities with weights.*
Workshop: "Optimal inequalities and P.D.E.", University of Insubria, R.I.S.M., Villa Toeplitz, December 02 2014.

9) *On the asymptotic profile of non radial blow up solutions of the Liouville equation with singular data.*
XX^o Convegno U.M.I., Siena, September 7-12 2015.

10) *On the global bifurcation diagram of mean field equations.*
Workshop: "Physical, Geometrical and Analytical Aspects of Mean Field Systems of Liouville Type", Banff I.R.S., April 01-06 2018.

11) *On the global bifurcation diagram of the Gel'fand Problem.*
Conference: International Conference on Elliptic and Parabolic Problems, Gaeta May 20-24 2019

12) *Mean field equations and the global bifurcation diagram of the Gel'fand Problem.*
Conference: Partial Differential Equations in Analysis and Mathematical Physics, Santa Margherita di Pula (Cagliari) May 30 - June 01 2019.

13) *Mean field equations and the global bifurcation diagram of the Gel'fand Problem.*
Conference: *Variational methods with applications to problems in mathematical physics and geometry*, on the occasion of the 75th birthday of Prof. Antonio Ambrosetti, Istituto Canossiano San Trovaso, Venice (Italy), November 30 - December 1 2019

14) *On the uniqueness of spherical polyhedra.*
Workshop: Spherical surfaces and related topics, scheduled in Cortona (Italy), June 21-25 2021, postponed to Cortona June 20-24 2022 due to Covid-19 Crisis.

15) *On the uniqueness and monotonicity of solutions of Grad-Shafranov type equations.*
Workshop: Nonlinear PDE$'s$ in Cosenza, Cosenza May 16-19 2023.

16) *Sharp estimates, uniqueness and spikes condensation for superlinear free boundary problems arising in plasma physics.*
Workshop: New Trends in Nonlinear PDE's, Physics and Geometry, Granada January 22-26 2024.

Teaching
From 2000/2001 to 2005/2006:
Exercises for the Courses of Mathematical Analysis I, Calculus I, Calculus III, for the Engineering departments of Università di Roma "Tor Vergata" and Roma "Sapienza".

From 2008-2009 to present days for Università di Roma "Tor Vergata":
A.A. 2008/2009-2009/2010: Mathematical Analysis I (10 CFU) Engineering Departments.

A.A. 2010/2011-2011/2012: Mathematical Analysis I (9 CFU) Engineering Departments.

A.A. 2012/2013: Mathematical Analysis II (4/10 CFU) Mathematics Department.

A.A. 2013/2014-2014/2015: Mathematical Analysis II (9 CFU) Civil Engineering Department.

A.A. 2015/2016-2020/2021: Mathematical Analysis I (12 CFU) Engineering Departments.

A.A. 2021/2022-2023/2024: Mathematical Analysis I (9 CFU) Sci. Tec. Med, Mathematics Department.
Differential Equations (8 CFU) Mathematics Department.

Thesis
- Examiner Thesis "Laurea Magistrale in Matematica Pura e Applicata".
Candidate: Michele Ricciardi. Title: "Sistemi Mean Field Games e problema di pianificazione".
Supervisor: Prof. A. Porretta; A.A. 2015/2016.
- Examiner Thesis "Laurea Triennale in Matematica Pura e Applicata".
Candidate: Damiano D'Addezio. Titolo: "Sulla completezza di gruppi ad un parametro olomorfi su $\mathbb{C}^n$".
Supervisor: Prof. A. Iannuzzi; A.A. 2016/2017.
- Adjoint supervisor Thesis "Laurea Magistrale in Matematica Pura e Applicata".
Candidate: Francesco Malizia. Title: "Blow-up issues in Liouville type equations".
Supervisor: Prof. G. Tarantello; A.A. 2021/2022.

Relevant tasks for the University of Rome "Tor Vergata"
- Member of the VQR 2011/2014 and VQR 2015/2019 commissions for the Mathematics Department;
- Member of the excellence project "MATH@TOV" commission of the Mathematics Department
("Dipartimenti di Eccellenza", M.I.U.R. - 2017);
- He has been involved, with proff. A. Malchiodi and G. Verzini, in the drafting of the research project
"PDEs with variational structure: theoretical and applied aspects" for the "PRIN 2017" funding;
- He has been involved, with proff. A. Malchiodi and G. Ciarolo in the drafting of the research project
"Geometric PDEs and Variational Problems" for the "PRIN 2020" funding;
- He has been involved, with proff. A. Malchiodi and F. De Marchis, P. Esposito in the drafting of the
research project "Variational and Analytical aspects of Geometric PDE's" for the "PRIN 2022" funding;
- Editor in charge of the Newsletter for the project "MATH@TOV" 2018-2022 and of the project "Mat-
Mod@TOV" 2023-present day;
- Organization of "Scienza Orienta" 2014, 2015, 2016, 2017, 2018, "Macroarea S.M.F.N.".

Competition selection boards for the University of Rome "Tor Vergata"
A.A. 2012/2013: member of the selection board for:
- 2 year grant S.S.D. MAT/05 "Analysis and beyond", Mathematics Department;
- 1 year grant S.S.D. MAT/05 "Problemi ellittici nello studio dei vortici e loro applicazioni", Mathematics
Department.
A.A. 2014/2015: member of the selection board for:
- 1 year grant S.S.D. MAT/05 "Variational and perturbative aspects of nonlinear differential problems",
Mathematics Department;
- 1 year grant S.S.D. MAT/05 "Aspetti variazionali e perturbativi nei problemi differenziali non lineari",
Mathematics Department.
A.A. 2018/2019: member of the selection board for
- 1 year grant S.S.D. MAT/05 "PDE", Mathematics Department, sponsored by the project
"MATH@TOV";
- member of the local (Mathematics Department) national commission for 30 grants, sponsored by "Isti-
tuto Nazionale d'Alta Matematica "Francesco Severi"".
A.A. 2019/2020: member of the National commission for 30 grants sponsored by "Istituto Nazionale
d'Alta Matematica "Francesco Severi"".
A.A. 2020/2021: Member of the commission for the ammission at the XXXVIº Ph.D. in Mathematics,
Mathematics Department.
A.A. 2021/2022: member of the selection board for:
- 1 year grant S.S.D. MAT/05 "Problemi differenziali non lineari e analisi geometrica in Geometria e
Fisica", Mathematics Department.

Other tasks at the University of Rome "Tor Vergata"

- Member of "giunta di dipartimento" of the Mathematics Department, from 2016 to the present day.

A.A. 2010/2011: member of the organizing commission of "New Entries at Tor Vergata 2011" 11/12/2011, Mathematics Department.

A.A. 2013/2014: outreach Lecture: "La matematica dei vortici", teached in the occasion of "Scienza Orienta 2014".

A.A. 2014/2015: outreach Lecture: "La matematica dei vortici", teached in the occasion of "Scienza Orienta 2015".

A.A. 2015/2016: member of the commission "revisione pratiche professori visitatori".

A.A. 2016/2017: organizer "Junior Colloquium", speaker Prof. A. Carlotto, ETH Zurigo.

- member of the commission "revisione pratiche professori visitatori".

A.A. 2017/2018: invitations for the "MATH@TOV - short visiting professors" project: Prof. G. Wolansky (Technion, Haifa Israel), Prof. Y. Lee (Kyungpook National Univ., South Korea), Prof. A. Jevnikar (Univ. Pisa).

A.A. 2018/2019: invitations for the "MATH@TOV - short visiting professors" project: Prof. J. Xiong (Beijing Normal University, China), Prof. Y. Hu (University of Texas at San Antonio), Prof. A. Jevnikar (S.N.S. Pisa).

A.A. 2021/2022: invitations for the "MATH@TOV - High Level Teaching Activities" project:

Prof. D. Ruiz (Universidad de Granada), Prof. A. Jevnikar (Università di Udine), Prof. Q. Han (Notre Dame University).

- invitations for the "Variational Approaches to PDE's" project: Prof. C. Geldhauser (University of Lund), Prof. R. Lopez-Soriano (Univeridad Carlos III de Madrid).

February 02 2024